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AIRFIX

magazine

VOLUME 3 NUMBER 6 SEPTEMBER 1991



Kitography: Greg Kerry details all kits of the AT-6 Texan/Harvard

Panzerkampfwagen V Panther

Mosquito Aircraft Museum

Hummer Desert Patrol vehicle



Grumman F9F-1 Panther

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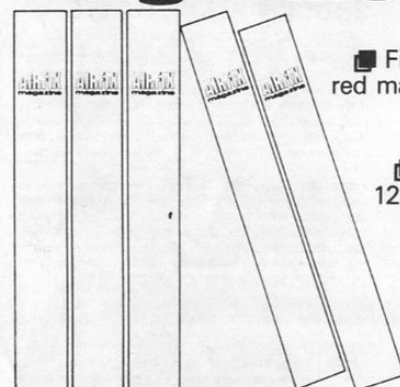
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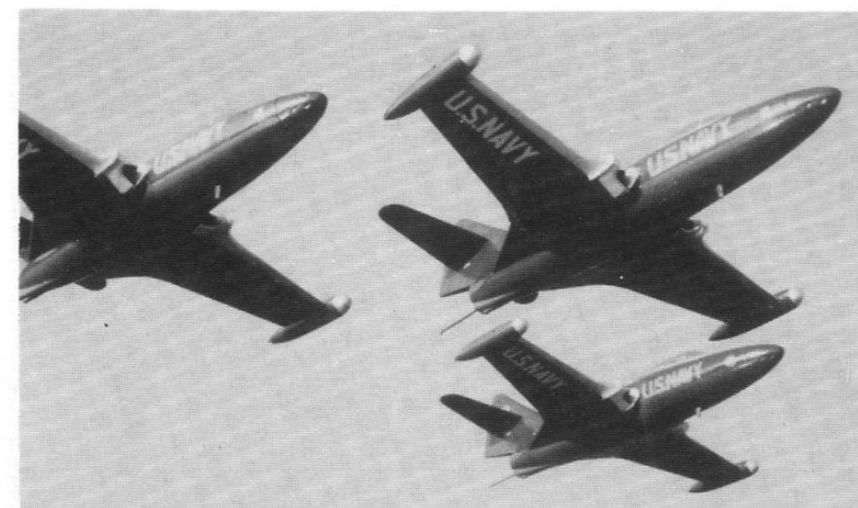
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The Grumman F9F-1 Panther was one of the first US Navy jet fighters. It was also the aircraft used by the Blue Angels aerobatic team and shown in Richard Randle's article on the subject this month.

Editorial

NOTHING IS PREDICTABLE

THREE years ago when I took over the publication of *Airfix Magazine* I imagined that it would be an extension into the do-it-yourself field of plastic modelling. I wanted to put into practice many of the things that I had thought about when I was the original editor 36 years ago when Airfix kits were becoming the new craze for youngsters and I was a very junior writer trying hard to get into the swing of journalism after having been a graphic designer for many years. At that time I was prevented from doing all that I wanted to do because as many of my readers must realise, you don't tell the gov'ner how to run his business, after all he signs the cheques. Now I sign them and I still cannot do all I want to for many reasons.

My title for this month's editorial is 'Nothing is predictable' and how true that is because *Airfix Magazine* has changed. It has become something that many armour enthusiasts have wanted for a long time and various other magazines have not been able to provide. Gone are the days when I wanted to extend the archive material in *Scale Aircraft Modelling* with some top-rate material on aircraft kit building. Instead we are carving a very definite name for ourselves in armour articles. Just look at this month's contents. There are three very good pieces by expert writers on subjects that, to be honest, I know very little about! To be equally honest, I have yet to build an AFV kit, but look at the good material we are now getting on this subject.

Yet this is not enough, because *Airfix Magazine* should be about a wide variety of plastic kit building and I feel strongly that we might have gone down the wrong path. Readers may tell me otherwise, but in order to widen the scope of this publication and interest a wider audience the armour enthusiast must realise that there are others who want guidance and help to produce better models at the end of the day and I want to have a wider selection of subjects in each issue. How can I do this? The answers rests with the modellers themselves. There must be many who do not build armour or aircraft so why not write to me and suggest some subjects that you could produce in legible form so that we can print your experiences in these pages?

Nothing is predictable and I am well aware of this. On the other hand I do have the opportunity nowadays to widen the scope of the publication with other material that will be of use to modellers on a broader base. If you feel that you come within this category let me know. I will be kind in my replies if I think that what you suggest is not exactly what we want, but at least give me the opportunity to criticise. Follow the style we have created and take some good pictures when you build your model. We can do the rest.

AWH

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Front cover: The two main articles this month, Kitography on the North American AT-6 Harvard and the Hummer Desert Patrol vehicle. Both subjects are fully covered with stage-by-stage construction methods.

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ACCENT ON ARMOUR



PANZERKAMPFWAGEN V PANTHER

By Paul Woodman

UP until the invasion of the Soviet Union the early German tanks had managed to survive without undue losses mainly because of good air support and cover by the potent 8.8 cm Flak gun in the anti-tank role. At first the attack on Russia seemed no different, vast numbers of Soviet tanks were destroyed piecemeal, mostly older T-26 and light tanks of the BT series. But new Soviet designs such as the T-34 and KV-1 and KV-2 gave the Germans quite a shock, technically they were far ahead of anything produced in Germany. Captured vehicles were transported back to Germany for investigation and trials. It was found that to counter these vehicles the whole tank development and manufacturing programme would have to start again from scratch.

The first tank in this new programme was the PzKpfw VI Tiger, which to counter the KV-1 was put into production as soon as possible using traditional armour arrangement. A second design, the PzKpfw V Panther, would follow later and would be manufactured with Soviet style sloped armour arrangement to

The parts of the Cromwell Models Panther Ausf D.

reduce the weight of armour yet increase the ballistic protection. The specification for the Panther was issued in January 1942 and the MAN company won the production order after trials with prototype vehicles in the autumn. Though the MAN design won the order, it was far

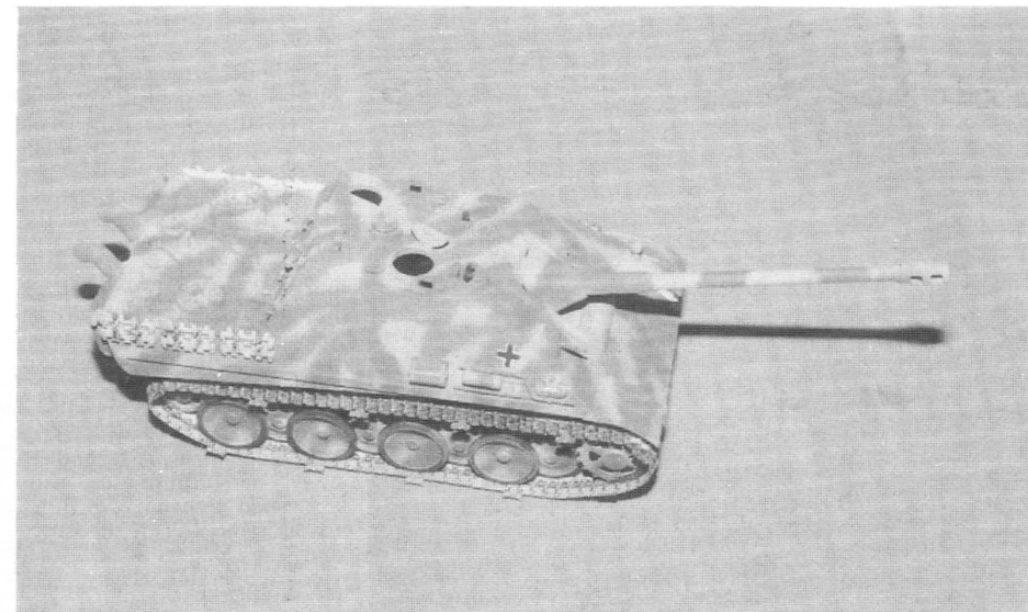
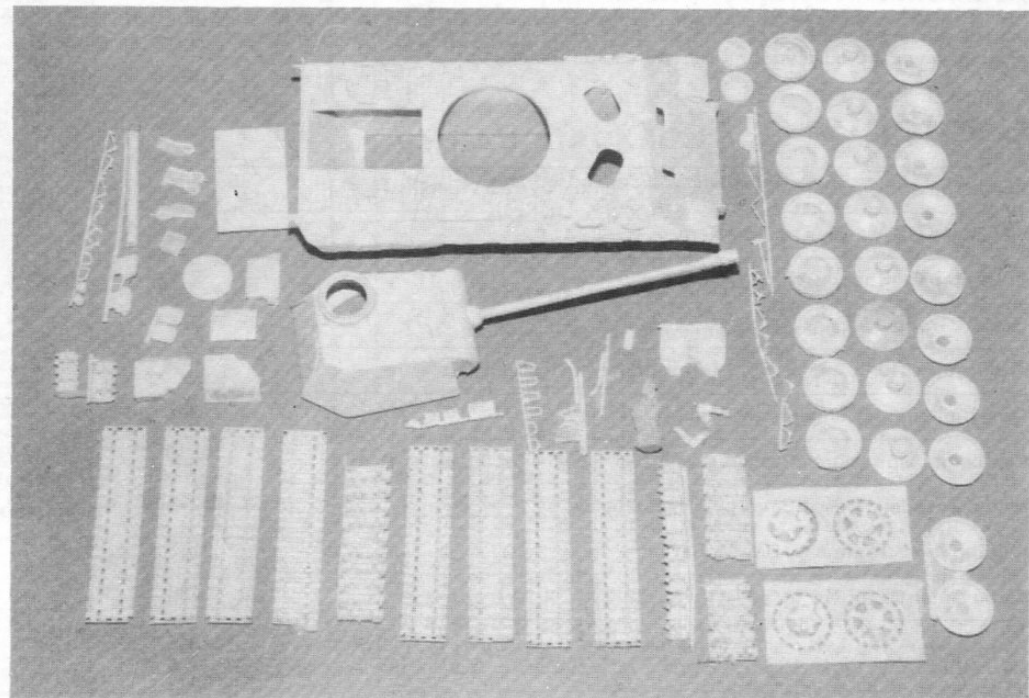
from perfect and a great deal of work had to be done to increase the reliability. Hitler himself became the mentor of the Panther and no expense was spared to get the tank ready for mass production.

HEAVY BEAST

The Panther was a large vehicle and weighed 45 tons, some 19 tons more than the T-34 from

The 1:35th scale Cromwell Models Panther Ausf D in the markings of the 10th Panzer Brigade, summer 1943.

which it was copied. It was also very sophisticated with torsion bar suspension and interleaved road wheels. Power was provided by a 650 bhp Maybach HL210 V12 petrol engine through a Maybach-Olvar gearbox which gave a road



The Tamiya Jagdpanther, nice but not accurate.

increase the capacity and raising the output from 650 to 700 bhp, the new engine was designated the HL230 P30, it replaced the original engine from the summer of 1943. At the same time the single-baffle muzzle brake on the L/70 gun was replaced by a double-baffle design. This formula remained unchanged for the remainder of the 'D' series, though the final vehicles were fitted with Schurtzen plates and Zimmerit anti-magnetic mine paste.

IMPROVEMENTS

From October 1943 production was switched to the Panther Ausf A which had several design improvements. The armour layout remained the same, but the 'A' had a ball mounting for the hull machine gun and the pistol ports were eliminated. A new cupola for the commander was a significant improvement with all-round periscopes and a rail to mount a 7.92 mm Spandau machine gun. Zimmerit and Schurtzen plates were standard on this model.

The Panther Ausf G was the final and most important of the series, entered production in February 1944. This model was redesigned with the angle of the side armour being altered from 30 to 40 degrees and the thickness was increased from 40 to 50 mm, this increasing the weight to almost 46 tons. The mantlet was re-

speed of 29 mph and cross country 18 mph. The armour was up to 120 mm thick on the turret front and 80 mm on the front glacis plate, which gave it better protection than the 55 ton Tiger I.

At first the 7.5 cm KwK.40 L/48 was suggested for the armament, but Hitler insisted on the new 7.5 cm KwK.42 L/70 which was 20 per cent more powerful, making it the most powerful German tank gun in production at the time.

The first production standard Panther was rolled out of the MAN factory in November 1942 and after acceptance it was planned to produce 250 tanks per month. Early in 1943

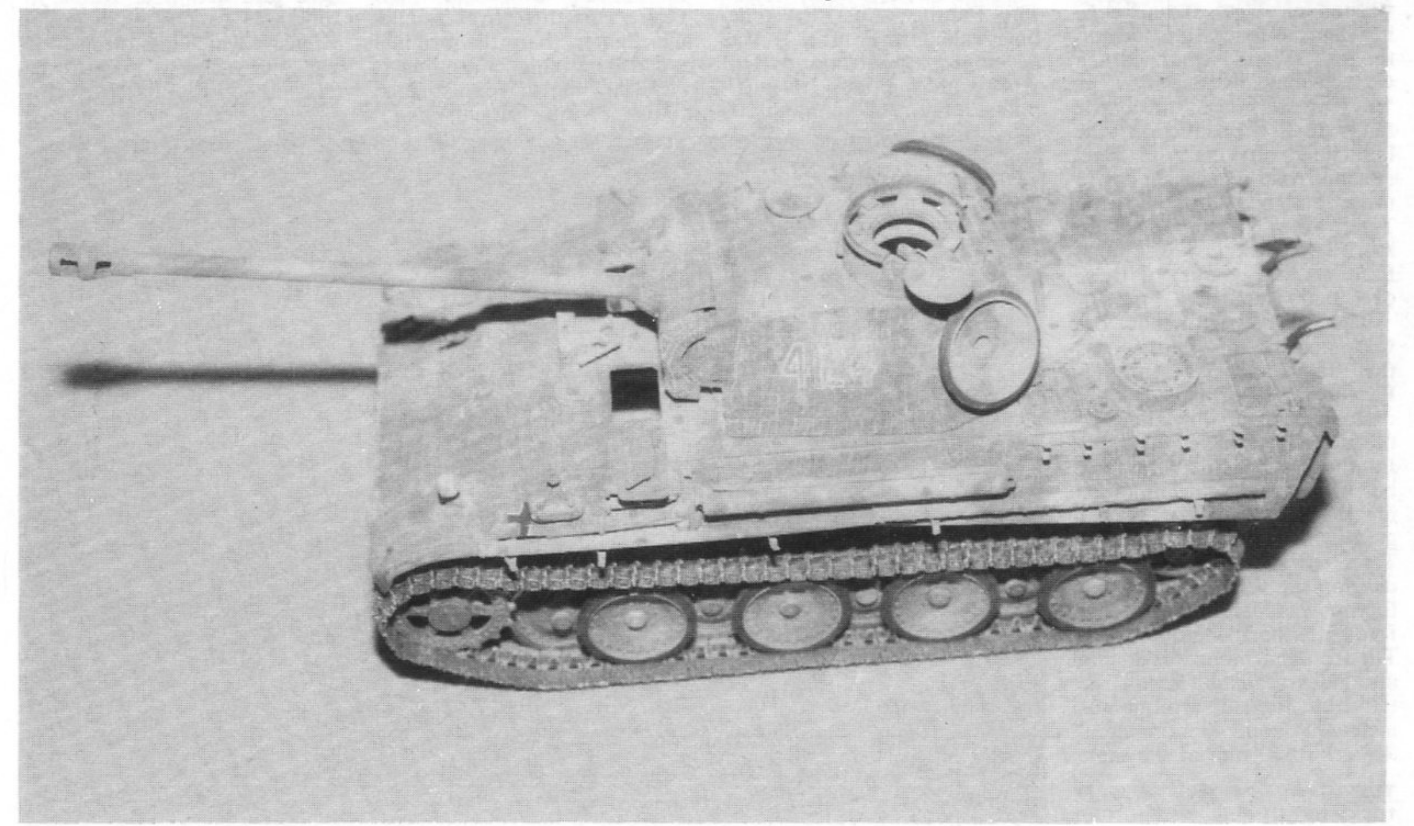
Daimler-Benz joined up for the Panther programme and the production rate demanded was raised to 600 tanks per month. Luckily for the allies this figure was far too ambitious and only a fraction of that figure was produced.

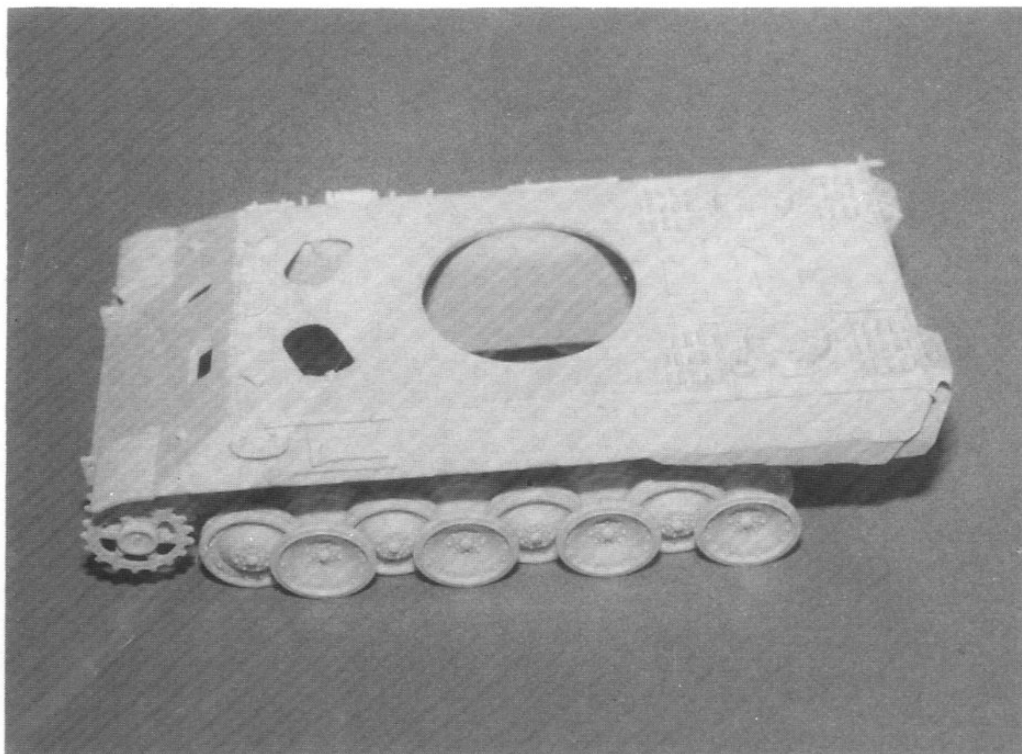
By the end of March two more companies had joined in production, Maschinenfabrik Niedersachsen and Henschel, as well as many sub-contractors. Such was the need for the Panther that aircraft production was cut at a time of massive allied bombing, so that extra resources could be channelled to Panther manufacture. By May production stood at 324 tanks, but mainly because of

allied bombing the production rate only averaged out at 154 tanks per month by the end of the year.

The first model was the Panther Ausf D which was distinguishable by the 'keyhole' mounting for the hull machine gun and simple commanders cupola. The hull side armour's bottom edge ran parallel with the roadwheels, with a small wedge shaped piece of armour overhanging the rear idler. It was rushed to the Eastern Front to equip the Medium Tank battalions which up until then had used the PzKpfw III. It was a huge leap in capability, but it was mechanically unreliable due in part to the overstressed engine. The HL210 engine was rebored to

The Nichimo 1:35th scale Panther Ausf G also has its faults.





designed with a flat bottom to prevent shot being deflected into the fighting compartment. There were many other minor detail improvements such as the elimination of the drivers vision port and new hinged hull top hatches. Internally, the ammunition stowage was revised and the number of rounds carried was increased from 79 to 82.

By 1944 the Germans had half-heartedly changed production priorities from 'quality' to 'quantity', though resources continued to be wasted on Tiger II and even heavier monstrosities such as the E-100 and Maus, which were technically useless. The 'G' was the last of the battle tanks to see production, the last tanks having the steel resilient road wheels similar to those designed for the King Tiger. From November 1942 to April 1945 a total of over 5,000 Panthers were built, of these over 3,600 were the 'G' model.

The most significant development of the Panther was the JagdPanther (Hunting-Panther) self-propelled tank destroyer. After the failure of the Elephant tank destroyer the Panther was chosen as the basis for a new vehicle mounting the 8.8 cm KwK.43 L/71 gun as mounted on the King Tiger. MIAG were asked to develop the vehicle and a prototype was demonstrated before Hitler on 20 October 1943. The frontal armour was 80 mm at 33 degrees same as on the tank, but the side armour was increased from 40 mm at 30 degrees to 60 mm at the same

The tracks are nice but are tricky to fit.

angle. Production started at MIAG in February 1944, at the same time as the Panther Ausf G and at the end of the war 382 units had been built. The JagdPanther was the best German tank destroyer of all, being light enough to have tactical flexibility and having a big enough gun to deal with all opposition.

TWO OTHER VERSIONS

At the end of the war two more versions of the Panther were almost ready for production. The Panther Ausf F, sometimes called the Panther II, was developed by MAN and Henschel with the idea of maximum component compatibility

with the King Tiger. The hull was the same as the late Panther Ausf G but had the AK7-400 transmission of the JagdPanther and the brakes of the King Tiger. Overhead armour on the hull was increased from 15 to 25 mm to help against small calibre machine gun and cannon shells fired from aircraft. The main improvement was to the armament with a new 'Schmalturn' (small turret) able to accept the 7.5 cm KwK.42 L/70 or L/100 and also the 8.8 cm KwK.43 L/71 gun as used in the King Tiger. This turret was smaller and lighter than the original and also had thicker armour. It was far more sophisticated than previous designs with

The roadwheels are very easy to fit.

range-finder, gyro-stabiliser and other fittings copied from the American Sherman. Even more formidable was the JagdPanther II which would have mounted the 12.8 cm PaK.44 L/55 gun that was used in the JagdTiger.

There were several special purpose variants built on Panther chassis, though all were built in relatively small numbers. For the command role there was the Befehls-panzer which was a modified Ausf D, A or G with extra radio equipment. A second receiver and transmitter, with associated antenna, was fitted to the right wall of the turret and the loader acted as a second operator. There were two different models, the SdKfz 267 with Fu-8 and Fu-5 sets and the SdKfz 268 with Fu-7 and Fu-5 sets. To accommodate the extra radio sets the number of rounds was reduced from 79/82 to 64 rounds. The Beobachtungspanzer was an Armoured Observation Post (AOP) issued to self-propelled artillery units. It was an old Ausf D model with the interior gutted and fitted out as an office with map tables and an extra radio set. The gun was removed and in its place was a shorter wooden barrel. Finally there was the Bergepanzer recovery vehicle, again built on Panther Ausf D chassis, it had the turret removed and a winch fitted as well as other specialised equipment.

The Panther Ausf D first went into action at Kursk in July 1943 as part of a grand offensive which included several 'secret weapons' such as the Panther and Elephant. Unfortunately for the Germans almost

The turret has all the features of an early 'D'.

all the Panthers committed to this battle broke down before ever reaching their starting point. Engine fires and trouble with the cooling system were the most common faults and the wheel rims also gave trouble. At the end of the first day only a handful of Panthers were left intact and it never got the chance in this battle to prove itself. But gradually the problems were solved and the tank gained a reputation to rival that of the Tiger.

SLAUGHTER

The high velocity 7.5 cm KwK.42 gun could penetrate about 120 mm of sloped armour at a range of 1,000 metres giving it just enough punch to deal with the Soviet KV-1 at this distance. The lighter T-34 could be engaged successfully at any practical distance which in World War 2 was limited to about 2,000 metres given the quality of range-finders and gun sights. In turn the 76.2 mm guns of the Soviet tanks could not harm the Panther at point blank range. The Panther and Tiger committed wholesale slaughter on the Eastern Front with the Red Army paying an enormously high price for its advances. To try and counter the German tanks the Russians re-armed the T-34 and KV-85 with the 85 mm anti-tank gun. But this too had little effect on the Panther until the new high-velocity 'arrowhead' round was in service and this was only effective against the frontal

armour at ranges up to 500 metres.

The Panther Ausf A was in some ways the best of the Panther series, as after 1944 German metalurgy began to deteriorate and this affected the quality parts. Certainly the 'A' was the most reliable of the series. They first reached the troops at the end of 1943, most going to the Eastern Front with some sent to Italy. Against the allied tanks in Italy the Panther had little to worry about. But the terrain was against any sort of large scale armour engagement and the Panther was not allowed to demonstrate its ability as it had done in Russia. The 'A' was also the main type in service at the time of the invasion of Normandy in June 1944. Normandy was a tough fight for both sides, the Ger-

mans had the considerable advantage of the terrain and the fact that it was a single entity unlike the allies who were two separate armies fighting together. The allies had total air superiority, but the British and American ground forces differed greatly in both tactics and equipment.

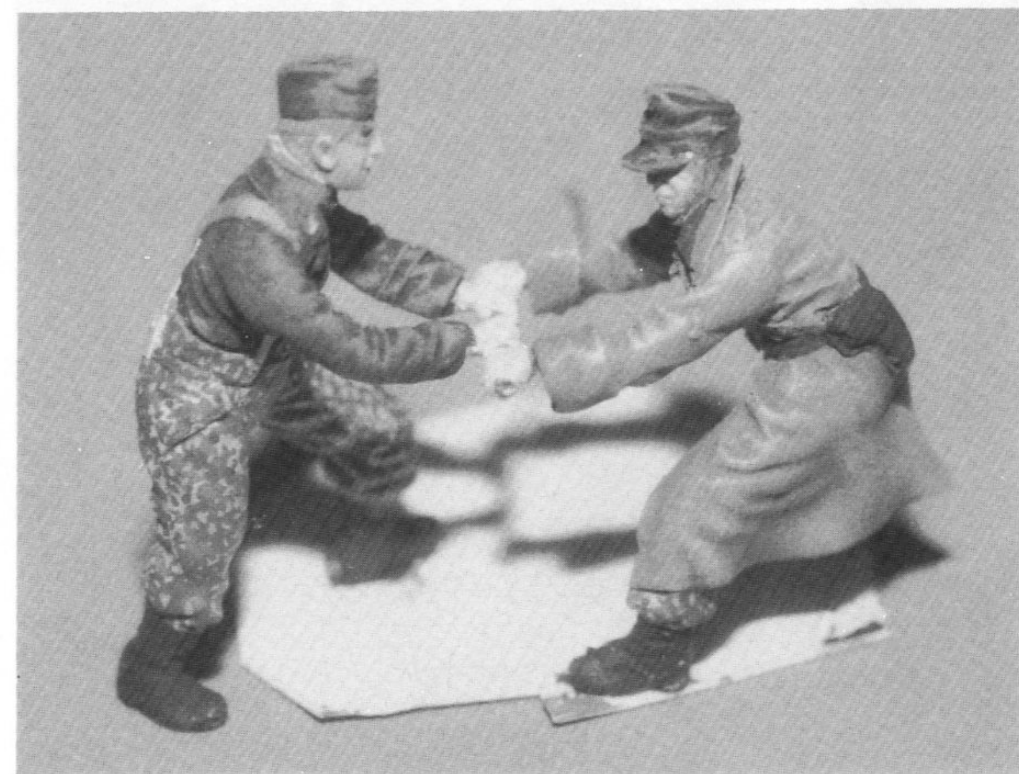
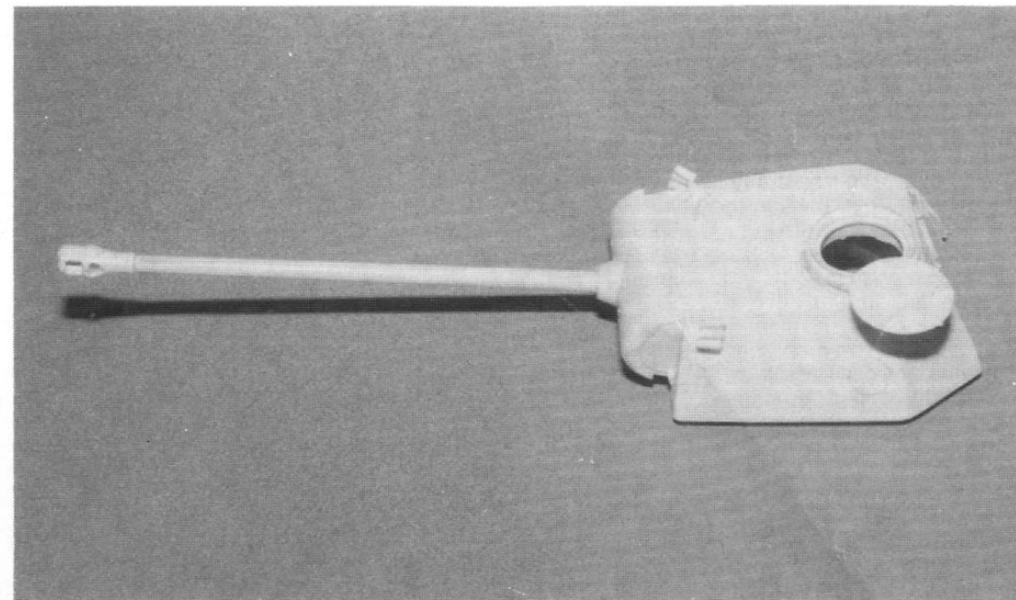
The Germans were slow to react to the allied invasion of Normandy because of disinformation which led the High Command to believe the 'real' invasion would be at Calais. Rommel sent his reserve forces, Army Group B, against the British sector and in doing so stopped the British taking the town of Caen. The fighting was fierce and losses on both sides were high even among heavier tanks like the Panther. More Panzer divisions joined

Army Group B, both Wehrmacht and Waffen SS with about 90 per cent of all German tanks available being in the British sector with just one Panzer Grenadier division moving against the Americans. The fighting resulted in small advances by the British at a high cost, particularly among the infantry divisions. Counter attacks by the Panthers were beaten off with equally high losses, high velocity guns like the 17 pounder and constant air attack meant that for almost no gains in territory German casualties were often twice that of the British forces. It was a battle of attrition in this sector and one which bled the Panzer divisions white.

In the early stages of the Normandy campaign the Americans faced few tanks and had to deal mainly with second-line infantry battalions stationed along the coast. At this stage most American tanks were older model M4 and M4A1 Shermans, backed up by the M10 Wolverine tank destroyer. Both vehicles were at a grave disadvantage when facing the Panther or Tiger, the 76.2 mm gun of the M10 was only marginally better than the 75 mm gun on the Sherman. American troops were also 'green', most having come direct from their training camps in the United States to England ready for the invasion. Because the British had tied up almost all the German armour, the Americans could build up their forces for the final encirclement of Army Group B.

The Panther and Panzer IV formed the backbone of the Panzer divisions in Normandy, with smaller numbers of Tiger I and King Tiger. Their best tank was the Panther and

Crew figures for the Panther from Cromwell Models.



though the Americans met very few, they calculated that it took five Shermans to destroy each one they encountered. With quite a sizeable number of 17 pounder guns in service on tanks, tank destroyers and towed pieces, the British fared much better, but the Panther was still treated with much respect. In the end the German Army in Normandy was surrounded and destroyed, only those quick on their feet escaped the destruction. These remnants were chased across France and Belgium, finally regrouping on the Dutch border when the pursuing armies reached the limit of their supply lines. By this time the American armies outnumbered the British and it would be against the less experienced Americans that the Germans would launch their last offensive.

BATTLE OF THE BULGE

The Battle of the Bulge was carefully planned to take advantage of bad weather which would ground much allied air power. Its objective was to deal the allies such a blow that they would sue for peace and eventually join forces to destroy the Russians. Over 1,200 tanks were assembled for the attack, most were PzKpfw IV L/48 and L/70, fewer Panther A/G these being the equipment of the Panzer

battalions, with smaller formations of King Tiger in support. Panther tanks spearheaded the assault which threw the Americans into panic with whole units throwing down their weapons and fleeing. A salient 40 kilometres deep was formed as the Germans advanced, but growing resistance and lack of resources slowly brought the advance to a halt. It is doubtful that the offensive would have ever achieved its objective, but it threw the Americans into such a mess that General Montgomery was asked to take command of US troops until the danger had passed.

The Panther had the best war record of any German tank in service during World War 2 and many historians claim that it was the best tank to emerge from the conflict. It was one of the best designs to see action, but by the end of the war Allied designs such as the Centurion, IS-3 and M26 Pershing were at least as good if not better. Had the war continued, German plans had been to issue the Panther G/F to all Panzer battalions, while the King Tiger would equip the heavy tank companies. After the war several French armoured regiments were equipped with the Panther and most of the Allies retained a small fleet for trials. The British even went so far as to build a brand new Panther

from parts left at the factory to be used in trials with the Centurion.

MODELLING THE PANTHER

As befits such a well known vehicle most kit companies have added a Panther to their range at some time or other. Airfix produced a Panther Ausf G in 1:76th scale as one of their first military kits way back in the late 1950s and it is still on sale from time to time. The latest kit to appear in this scale is the superb little Panther Ausf G from Cromwell Models. It depicts a late 'G' and has full exterior stowage detail, all the modeller needs to add is a coat of paint.

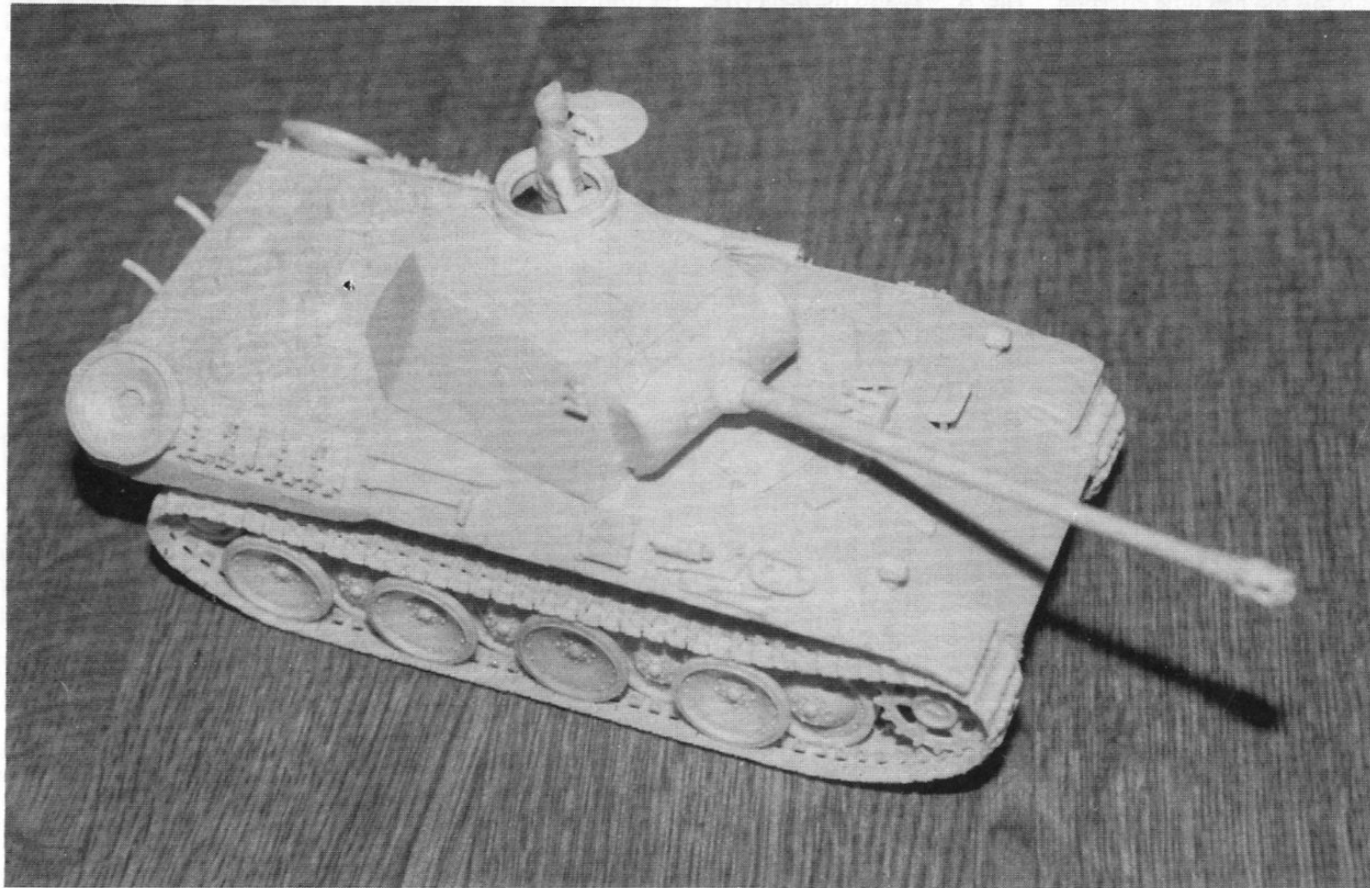
In the larger 1:35th scale both Tamiya and Nichimo have produced kits of the Panther and the Jagdpanther. The Tamiya kit dates back to the 1960s and is of an early 'G' with dish type road wheels, this fits in with the Jagdpanther which is also based on the early 'G'. Unfortunately these early kits were originally motorised and as a result are oversimplified. Accuracy has also suffered and these kits need much work for even basic correction. Nichimo also produce a Panther but as it is only available rarely in the United Kingdom I have not seen it. Gunze Sangyo have released the Panther Ausf G and two versions of the Jagdpanther in

1:35th scale. These are excellent but for me they are overpriced for what after all are mass produced kits. It is a mystery to me how the company can produce a superb car kit for under £10.00, yet the military vehicles often cost between £55.00 and £85.00!

The latest Panther kits are those produced by Cromwell Models to 1:35th scale and cast in resin. Eventually the company will produce four kits covering the Ausf D and Ausf A versions. The first release is an early production Panther Ausf D of the type first used at Kursk in 1943. It is nicely cast in polyurethane type resin, the best for this sort of casting as it reproduces the finest detail and yet is easy to work with. The kit is correct in the smallest detail, but it is relatively easy to build as are all kits from this company. The second kit is a late production model 'D' with Zimmerit anti-magnetic mine paste on the hull and turret walls. It also has several detail changes such as the cupola.

Due for release shortly is the Panther Ausf A with Zimmerit, possibly followed later by a late production 'A' without Zimmerit. Also produced are several sets of complementary figures, some are to a theme such as engine maintenance, track repair and starting the engine. The kits feature a removeable engine deck to facilitate the installation of an engine compartment which should be on sale soon.

The completed model ready for a coat of paint.



MULTIPOSE US MARINES

By Greg Kerry

OF all the Airfix Multipose figure sets this is my favourite. Earlier figures like the German and British sets were quite good but with these US Marine figures the sculpting is of a higher standard: each individual face is just that — individual — imparting to each of the figures a natural character, a 1:32nd scale polystyrene personality.

All the figures are wearing standard olive drab twill fatigue uniforms of shirt and trousers — all with open necks, some with rolled sleeves (which makes the arms very useful for other figures too). Helmets are provided both with and without camouflage covers and there is a good variety of weapons: carbines, rifles and sub-machine guns — though a

The undercoat stage for the four Airfix figures used.

The completed base designed specifically to make the figures — in their various postures — look convincing.

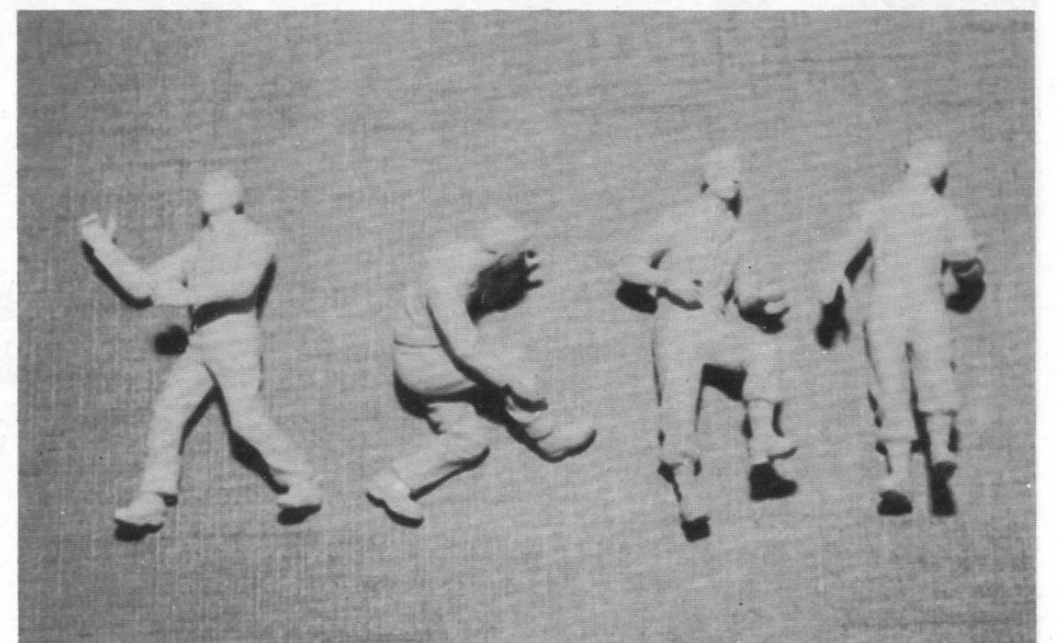
few hand grenades would have been welcome too.

FIGURE CONSTRUCTION

As ever with these Multipose figures it is essential to make sure gripping hands really do grip. Quite often this involves modifying the hands by trimming off the fingers and thumbs and repositioning them

closer around the weapon or whatever else they may be holding. This is fiddly but well worth taking trouble over.

Apart from that all the figures go together quite easily as advised by the instructions. I chose to use only four of the six provided (two others being used as groundcrew accompanying a 1:32nd scale aircraft) and I made them up in





This picture shows the shading added to creases on the uniform.

compatible poses before even considering what type of diorama base to build for them. This is not the way serious diorama builders work but I like the problem of putting the figures together and then having to construct a suitable diorama afterwards.

FIGURE PAINTING

With basic figure construction complete (i.e. without final details) I tend to use flesh for a

general undercoat, then check the major joints and then begin the serious painting with the face. Only when this is satisfactorily completed do I move on to the uniform, meanwhile using the booted feet as a handhold.

The uniform's base colour goes on first — in this case a faded medium green rather than fresh looking olive drab. With this dry I then outline

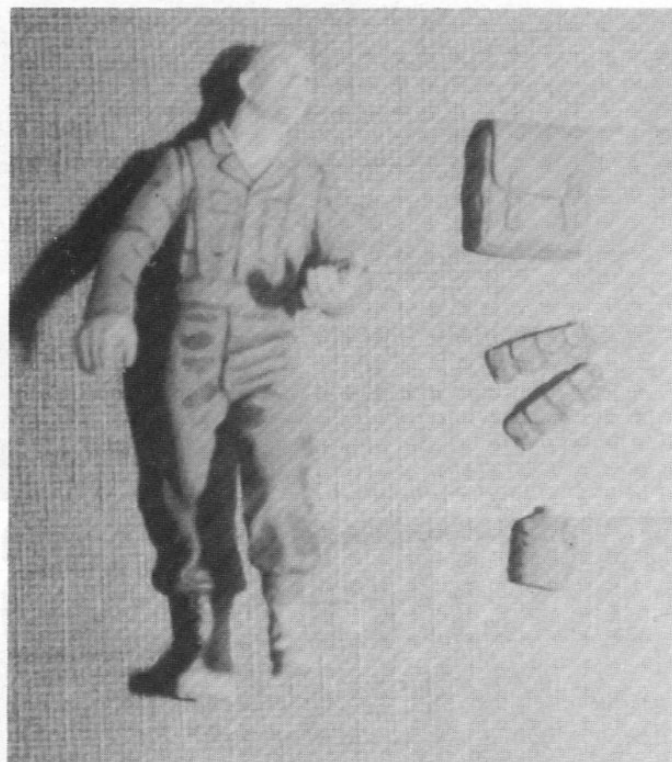
darker green which can also be used for the main shadowing. As a more exacting alternative, shadowing can be painted in first and then detail outlining in a slightly darker colour applied over that.

For one figure I chose to paint the trousers in mottled camouflage finish which is also used on the covered helmets: a yellow base with brown and green splodges. Once dry this can be coated with black acrylic wash to tone down the colours and create an overall blended effect. The black acrylic wash is also useful

applied to the plain green helmets to give them a slightly dirty glossy sheen. On the camouflage trousers the wash has the effect of providing shadows in the creases which would otherwise be very difficult to paint in because of the small areas of mottled colour.

Next, belts and straps are finished in tan green — packs, ammunition pouches, water bottles and other detail parts can now be painted in the same colour. If finished with particular care the straps and belts can also be outlined thinly in a darker shadow: in this

Webbing, belt and equipment shaded and outlined.



case, dark brown. This can be used also for lining the edges of pack and pouch flaps.

With packs and things fixed to the figures a very careful drybrushing was applied in white. This is what really sets the figures off. It creates lightened highlights, blends shadow and base colours together and also helps make the other colours appear faded and aged. A difficult technique to master adequately drybrushing is something that needs practice but is well worth persevering with.

All the weapons were painted in darkened aluminium, black acrylic and then drybrushed silver. Slings and helmet straps were trimmed from metal foil. Most of the helmet straps were left dangling beside the figures' faces but on the prone figure the strap was wrapped around the helmet's front rim in characteristic American style.

The four completed figures.



DIORAMA BASE

Trying to design a base suitable for these four figures gave me a lot of trouble. The character crouching down obviously had to be shielded behind a strand of grass parting it to peer through — the other three figures seemed to be most naturally behind him waiting to hear what he saw. This, then was a patrol out on reconnaissance not yet actually engaged in any fighting. Because they were American Marines a jungle setting seemed the most appropriate, tropical or at least sub-tropical.

Finally, I decided on the layout used here. A relatively

large base was used: another lid from a square-shaped margarine container. Although quite big for just four figures I planned to fill up the unused space with foliage. The three standing figures would be in the low foreground, the low crouching figure would be on higher ground which would also provide something of a backdrop for the diorama.

The plastic lid was filled with scrap cardboard which was also used in shaped layers to build up the basic shape of the rear high ground. This was then covered in a thin layer of Tetraon wall filler. Once dry this was painted a dark rich earth colour and washed in the ever useful black acrylic.

Two varieties of garden moss used for a convincing diorama.



The completed base awaiting figures.

The finer, greener moss came straight from my own concrete garden path. This can only be picked up in small patches but offers a nice contrast to the thicker more abundant moss.

The small broad-leaved plants are handmade — quite an easy job with this type of tropical plant. Stems are from garden twigs, leaves cut from paper, scored down the centre, bent slightly to shape and superglued into position. Painted medium green with a slightly glossy sheen these can look quite convincing — and can easily be made in a variety of shapes and plant formations. Of course, these cost nothing; otherwise tropical plants used in fish aquariums can be adapted but these are not cheap.

The larger, spikier plants used here are nothing but old plastic toy vegetation now repainted.

For a general ground scatter covering I found the bushier moss, when quite dry, could be rubbed between the hands to produce a fine powder with a convincingly varied texture. Sprinkled onto white glue this helps fill in the spaces. Tree trunks and rocks are garden twigs and stones respectively.

And that's it really. A good exercise in making the most of moss and garden detritus and constructing miniature plants from household materials that cost absolutely nothing.

This view shows the carefully finished sub-machine gun: shaded and highlighted; note the camouflage trousers too.





GRUMMAN PANTHER

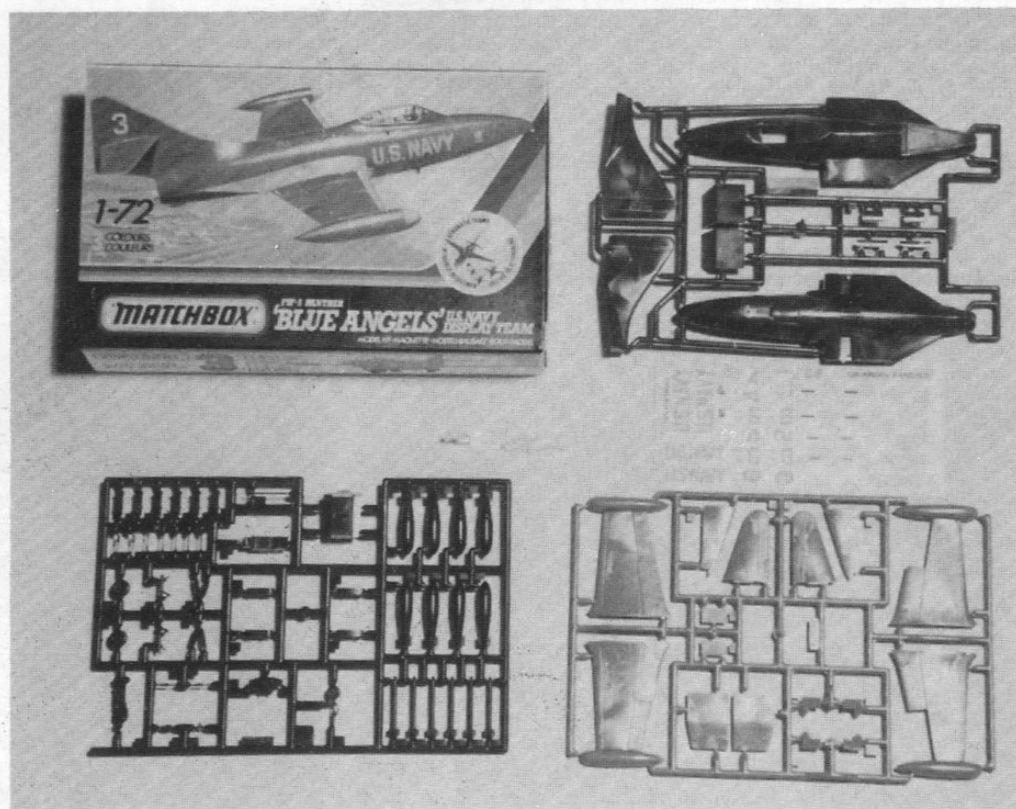
Richard Randle builds two versions of the Matchbox kit

IN response to post-war US Navy requirements for a jet-powered night fighter, Grumman Aircraft Engineering Corporation submitted designs for a carrier borne aircraft utilising four Westinghouse engines. These were rated at 1,500 lb apiece and the resultant aircraft was designated the XF9F-1 or model G-75 in April 1946.

However, during the same year various alternative proposals were discussed with the US Navy, a consequence of which was the cancellation of the XF9F-1 in October in favour of the XF9F-2, model 79D. This new design was powered by Rolls Royce Nene engines built under licence as Pratt and Whitney J42 and on 24 November 1947 the first of two prototypes took to the air.

PANTHER

In line with the established Matchbox F9F-5 Panther, 74 two-tone well moulded pieces, include a comprehensive decal sheet for a Blue Angel or USMC version.



The author's completed model of Matchbox Panther in US Marine Corps markings.

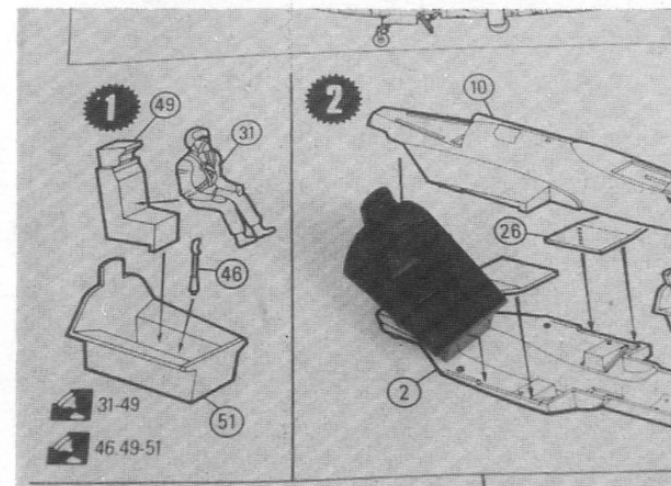
naming of aircraft by Grumman the XF9F-2 became known as the Panther and as such it was first delivered to operational squadrons in May

1949. Meanwhile considerable effort was directed towards development of the mark, in particular the use of more powerful engines and an extended fuselage, such variants then entering service as the XF9F-4 and XF9F-5 in early 1950. This was most opportune, the Korean conflict just beginning and on 9 November 1950 the

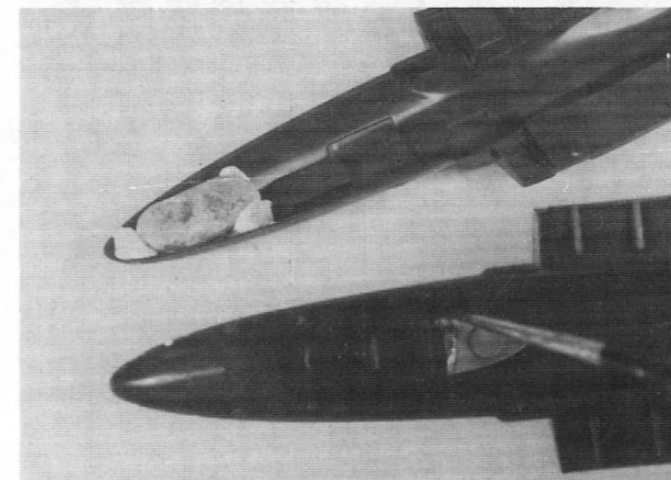
Panther became the first US Navy aircraft to shoot down a MiG-15. The type then went on to complete over 78,000 sorties primarily as a fighter bomber in which role it achieved a measure of success.

Post Korean War development continued and eventually a swept-wing version, the Cougar, gradually replaced the

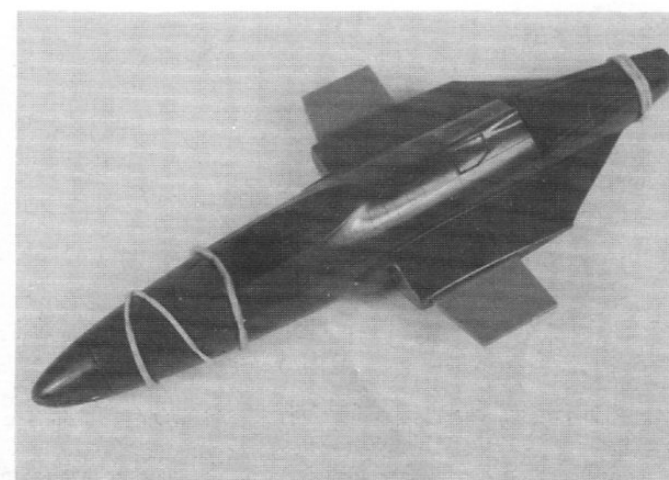
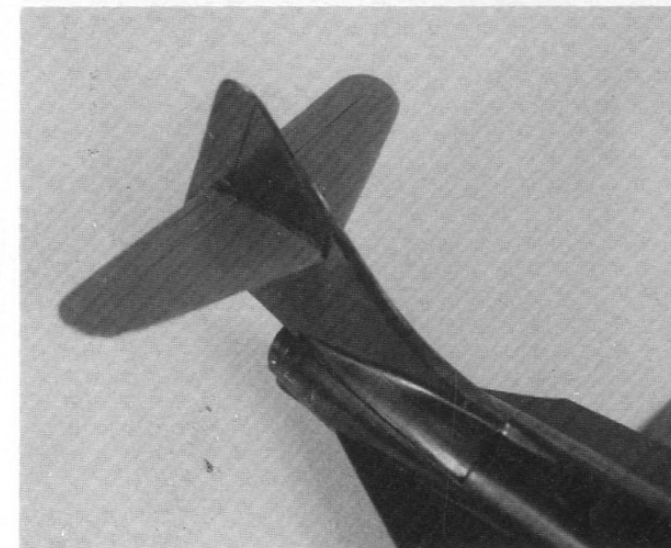
Cockpit interior details consist of base, seat, control column as well as a pilot figure.



If the kit is to be modelled upon its undercarriage a weight has to be secured into the nose section of the lower fuselage half.



The tail assembly is first constructed and fitted onto the after fuselage. Care has to be taken to ensure correct alignment of the control surfaces.



The cockpit detail assembly is fitted into the fuselage top half together with the instrument panel, then the wing support stubs. This done the fuselage halves are joined.

Panther squadrons as a front line fighter aircraft. However, the F9F-5 was adopted by the Blue Angels aerobatic team until 1954 and modified versions, such as the F9F-5KD target drone controller, were in service for some time after.

In all 1,385 Panthers were produced and the specifications for the final versions were: maximum speed 579 mph, initial climb 5,090 ft per

minute, service ceiling 42,800 ft and a range of 1,300 miles.

KITS

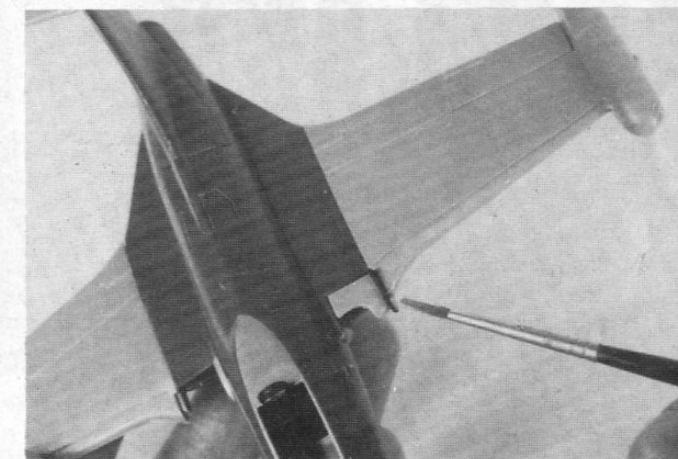
There are several kits around of the F9F-5 Panther but the most affordable and easiest to acquire is the 1:72nd scale Matchbox version.

This consists of 74 finely moulded parts and includes all you need to model either a

The wings, of two halves apiece, are fixed to the wing roots locating on their respective stubs. If the USMC version is to be modelled, the location holes for the stores pylons have to be opened with a needle.



The wing roots are completed by the addition of the three pieces of their intakes, a little filler may be necessary.



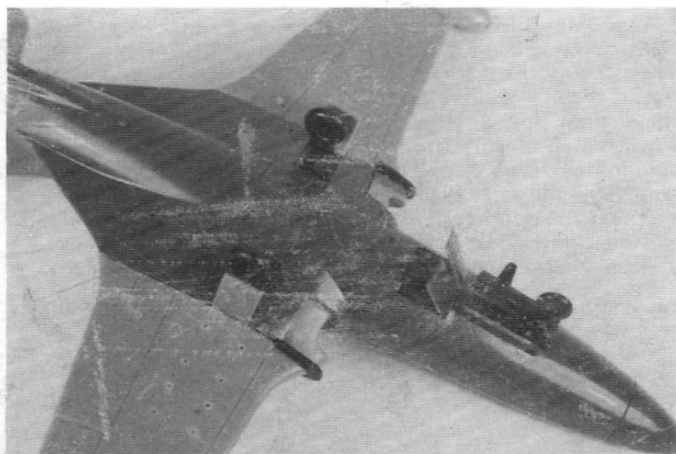
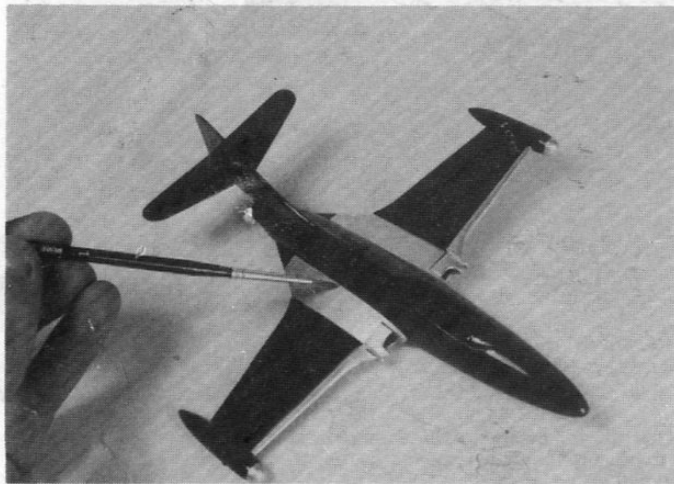
Blue Angels versions or alternatively one of the US Marine Corps.

The comprehensive decal sheet includes the names and codes of the entire Blue Angels team, those of Lieutenant Commander Frank Graham (1), Lieutenant Commander Ray Hawkins (2), Lieutenant Tom Jones (3), Lieutenant Pat Murphy (4), Lieutenant Bud Rich (5) and Lieutenant Mac Macknight (6). The USMC decals allow the modelling of an F9F-4 of VMF-314 MCAS Cherry Point in 1954. To

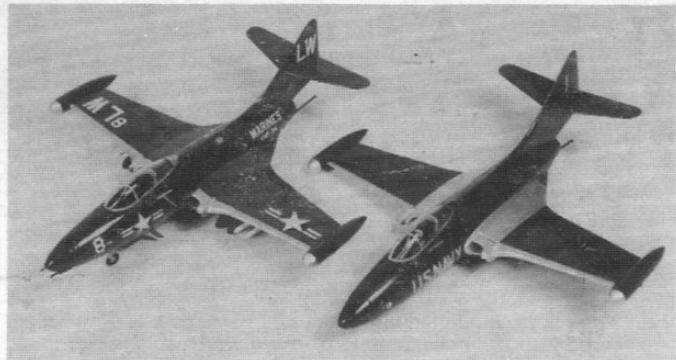
complete the latter aircraft, various stores, bombs and rockets can be added to give it a more combat ready appearance.

Having completed both versions I can report that the Matchbox Panther F9F-5 is very easy to assemble and therefore open to modellers of a wide age range and ability. The kit seems to be widely available and with this and its quality of modelling in mind, it is a model kit to be recommended, especially with a retail price about the £3.00 mark.

The Blue Angels version is painted (surprisingly) in blue with aluminium leading edges and wing roots with the USMC alternative in green.



The tricycle undercarriage is easily fitted, together with the air brakes, which are adequate though there is room for additional detailing.



After painting the airframe, the pilot figure is added, so too the canopy arrester hook and if opting for the USMC aircraft the various underwing stores. Finally, the decals are applied to their respective aircraft completing the Matchbox Panther F9F-5.

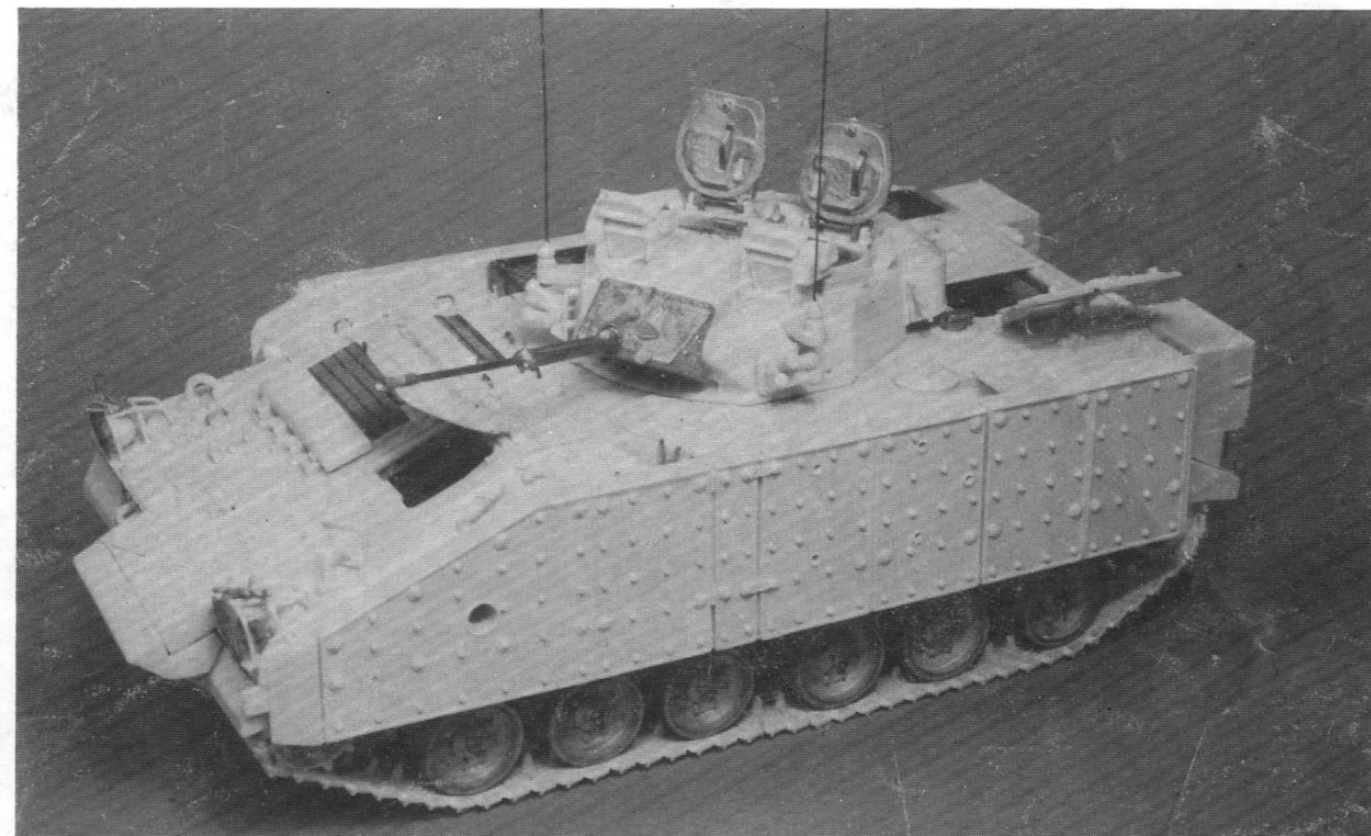
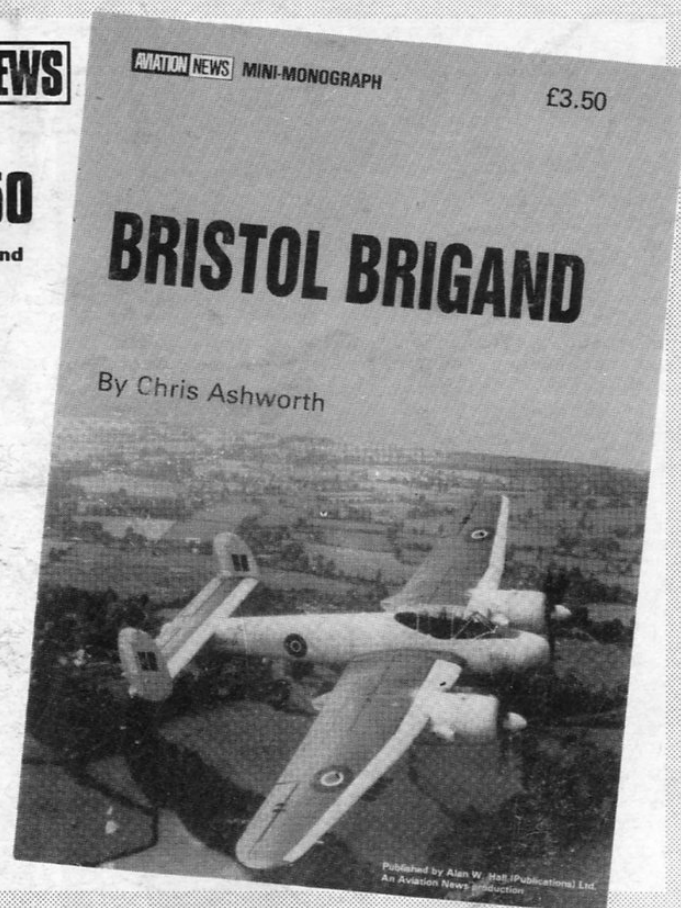
NEW FROM AVIATION NEWS

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THE 'O' GROUP

Accurate Armour's 1:35th scale uparmoured Warrior.

with one on the now familiar F-117A Stealth Fighter. When I first built a model of this aircraft I was very surprised at the size, in terms of overall volume it must be in the F-111 class and the similarity does not stop there. Though carrying the 'F' fighter designation, the F-117 is an attack aircraft of rather modest performance. Because operational aircraft are painted all black the superb colour artwork which are the hallmark of Squadron Signal publications

is thin on the ground. Much of the F-117 is still secret and this book goes about as far as possible in profiling the subject. The Gulf War thoroughly tested the aircraft and it spearheaded the attack on the Iraqi military infrastructure. It is thought that an F-117 was responsible for the infamous 'Baghdad Bunker' incident.

NEW FROM ITALERI

Italeri have now released their

FIRST I would like to correct a mistake in this column in the July issue when I mentioned the 'demise' of PP Aeroparts. Though the company's production facilities were closed down, work was sub-contracted out to other manufacturers and though there was a short break in some areas of production the company is still trading and is as 'healthy' as it ever was. I owe Tim Perry and many of his customers a profound apology for the distress caused by my hasty comment. Tim now works from his home address: 8 York Close, Stoke Gifford, Bristol BS12 6NU.

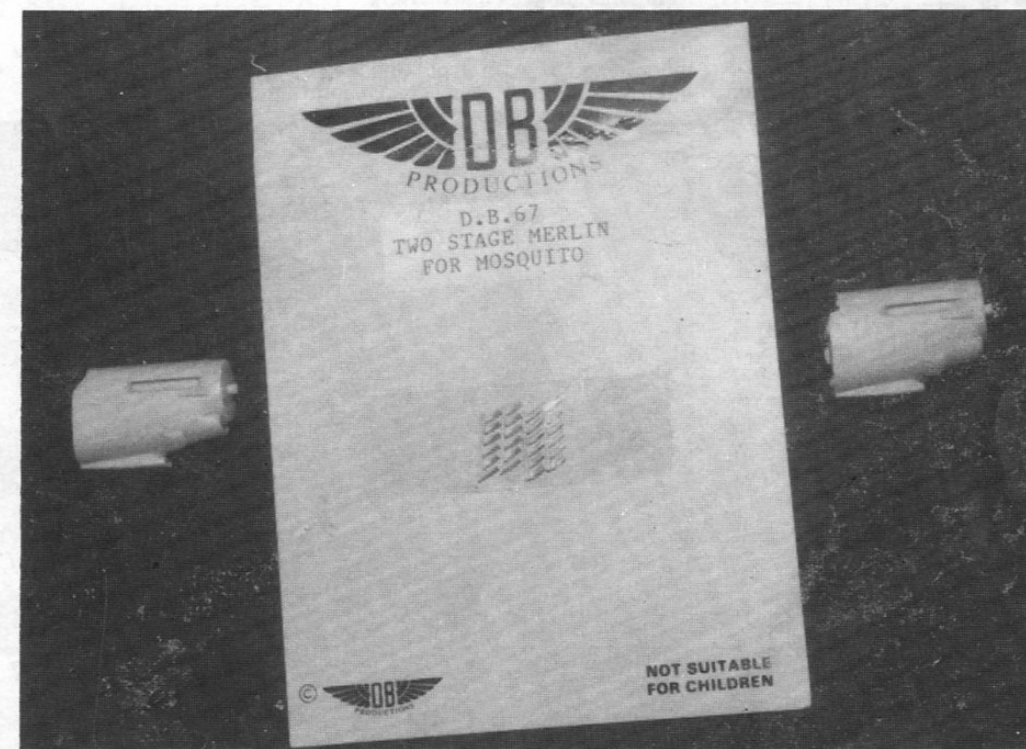
Academy earned a great deal of praise for their B-17 kits in 1:72nd scale released last year. Now the company has tackled the B-24 Liberator in three versions, the B-24D, B-24H and B-24J. These versions have been done before by Airfix and Revell but both are now a little long in the tooth first being released in the 1960s but revamped several times since then. In the larger 1:48th scale the company have released kits of the F-15C, F-15D, F-15E and F-16A/C. Academy kits are available from most of the

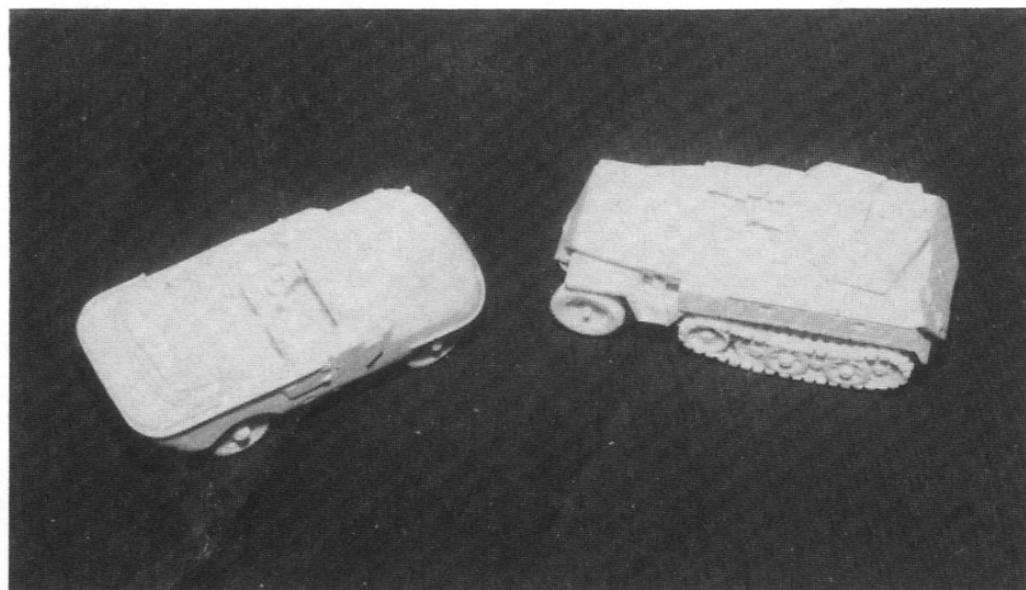
DB Products 1:72nd scale resin Merlin engines.

larger hobby shops or by mail order.

NEW BOOK

Squadron Signal have followed their book on the Tornado





version of the LAV-25 in 1:35th scale. This is a large 8x8 armoured troop carrier in the same mould as the old Soviet BTR-60, though more powerfully armed. The LAV series is built in Canada to a Swiss Mowag design and was originally built for the US Army. The Army opted for the Hummer and the LAV was passed to USMC who had a requirement for a reconnaissance vehicle. The LAV-25 is the basic APC, armed with a turret mounted 25 mm cannon and it can also look after itself against other vehicles in the same class. The Italeri kit is the latest and best representation of this vehicle and it is possible the company will release other variants such as the LAV-TOW, LAV-CCC and LAV-HV, etc. Italeri kits are distributed by Rico Ltd and will be available from most outlets.

Dragon have now released the first of their Desert Storm versions of the Soviet BMP-1 and BMP-2 kits. They contain an Iraqi Army decal sheet but I am told there are no other differences. In the United States the BRDM-2 kits have been released, standard BRDM-2 with turret, SA-9 anti-aircraft vehicle and AT-5 anti-tank vehicle.

MORE FROM VERLINDEN

Verlinden have released a conversion kit for the Marines M60A1 with Blazer type armour in 1:35th scale. In 1:48th scale the company have released a World War 2 period Willy's Jeep in resin and photo-etched brass. A set of wheels for the Hummer are provided as an accessory kit in 1:35th scale. A set of Israeli FN-MAG machine guns and mounts are provided for use

1:35th scale Challenger Mk.3 armour set from Accurate Armour.

with Israeli vehicles. Also a set of 75 mm PaK ammunition and boxes.

In 120 mm scale the company have now released several new figures including British World War 2 Para, German Luftwaffe Para, USN SEAL (Vietnam), German Trooper World War 2 Russia, US Tank Commander, SS Officer, SS MG34 Team, US M60 machine guns (2) and Luftwaffe General. There are also two new *Warmachine* titles, the M2/M3 Bradley APC and the M1 Abrams currently in service with the US Army. These books are photo profiles of the vehicles to give the modeller some idea on how to go about superdetailing the existing plastic kits.

Continental Model Supply Co have several new releases in 1:87th scale from the Roco-Minitanks range. First there is a 'Bibber' bridgelay vehicle of the Bundeswehr priced at a modest £6.65. Also from the modern German Army is a

Hummel transportpanzer at £4.10. From World War 2 there is an American DUKW amphibious truck at £8.00, this is by far the most interesting vehicle considering its widespread service. Another US vehicle is the M200A1 five ton Truck with generator for £5.60 and M101 and M105 trailers at £2.30. From CMSC Models there is a resin and white metal kit of the US M3 half-track priced at £4.10 and at the same price Trident have released a plastic kit of the Marine LAV-25. Being a popular railway scale on the continent the range does include some rolling stock for use with Roco and other models in the same scale. The address is 36 Gray Gardens, Rainham, Essex RM13 7NH.

TWO NEW TRACKS

Model Kasten have released two new track sets, one for the PzKpfw II and variants and the other for the French Hotchkiss

Cromwell Models 1:76th scale 'Tippel' and SdKfz 250/9 (Nue).

H-35/38/39 series of light tanks. For those who have not come across Model Kasten before, these tracks are injection moulded in plastic as individual links. These are the ultimate in model track sets and are a must for those building showcase models, prices average £13-18.00 depending on the size and length of the track. Also from Model Kasten is a set of Soviet Nagant bolt action rifles as used by Soviet forces in World War 2. Model Kasten products are stocked by Historex Agents and Brian Sheriff Ltd.

Cromwell Models have now released the PzKpfw II Ausf D in 1:35th scale. It has been advertised for some time but production delays and advanced orders means that only now is it on general release. Its stablemate the Flammpanzer II should be released shortly. This is a fine kit of what is an attractive little vehicle that was used in the first tank battles of World War 2. In 1:76th scale I was sent models of the Tippel amphibious car, SdKfz 250 (Nue) and SWS half-tracks. These kits are not new but are popular models that are back in production. Whether in 1:76th or 1:35th scales the company produces good quality easy to assemble and build models with the minimum number of pieces necessary for a highly detailed model. For more details or a full list of kits contact Gordon Brown at Cromwell Models, Regency House, 22 Heyburn Street, Glasgow G11 6DG.

MORE FROM MONOGRAM

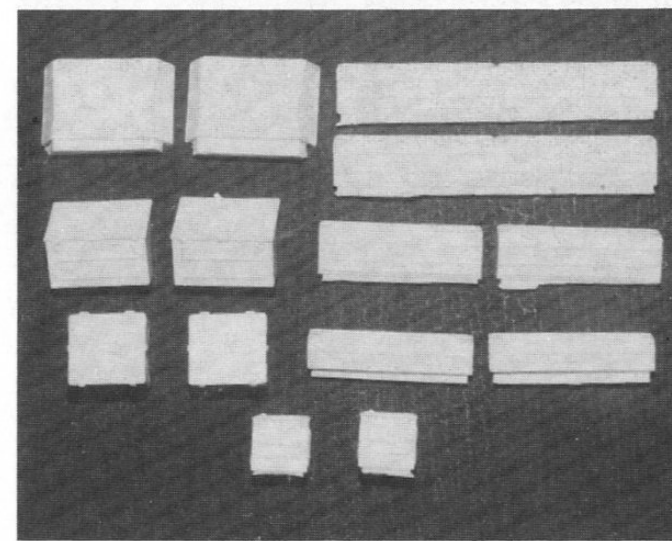
Monogram have released details of some new and re-issued kits which should be in the

shops some time this year. There will be five 1:48th scale aircraft models, the new kit being the F-117A Stealth in low-viz markings as used in the Gulf recently. From the Vietnam era we have reissues of the A-4E Skyhawk in Navy markings, a highly colourful F-100D Super Sabre 'Tripple Zilch' and in contrast an Aggressor Squadron F-5E Tiger II. Last but not least is the B-25J Mitchell bomber.

Tasman Model Products have been available in the UK from specialist model shops for quite some time and their

vax canopies will complete the kits. The Lo/Tasman is yet a third series of models specially produced for enthusiast modellers. The models listed are a South African Cheetah (single and two seat), Mirage IIID and Mirage IIIE all in 1:72nd scale. Tasman Products are available from several mail order outlets such as Hannants, Brian Sheriff and ED Models. The address of the company is Tasman Model Products, PO Box 14-263, Wellington, New Zealand.

Tamiya have now released the SdKfz 7 heavy artillery



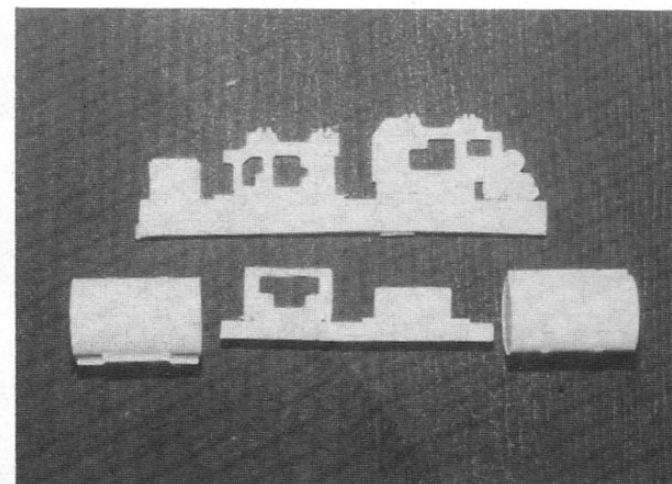
Bin set for Modern British AFVs by Accurate Armour.

decals are especially well known. The company provides decals for Antipodean aircraft but now are going one better and are joining with Premiere to produce a series of ex-Frog aircraft kits. The first will be a Sea Venom FAW.21 with RAN markings, followed by a Beaufort (RAAF/RCAF) and Vulture Vengeance (RAAF/USAAF). These will be limited run kits with about 7,500 being available for worldwide distribution. If these prove popular then other subjects may follow. These are labelled the Premiere/Tasman series and in addition to the decals will have photographs, scale drawings, Aviagraphica cutaways as well as metal parts and vacuformed canopy.

A second 'Upgrade Series' will be marketed which will feature special boxings of Heller/Minicraft kits with RAAF/RNZAF related decals. The first kit in this series will be a (Heller) DH.89A Rapide, followed by a T-6 Harvard, Vampire FB.5, PV-1 Ventura and P-51D. The boxes will contain metal or plastic detail parts and in some cases conversions, such as PV-1 to Lodestar and Vampire FB.5 to T.11/35 trainer. New decals and clear

1:35th scale Accurate Armour Comet Mk.I.

SEPTEMBER 1991



The 1:35th scale Accurate Armour Challenger Mk.3 fuel drum set.

speculate as several models have been shelved. As yet there are no plans to release either an updated Challenger or a Warrior, though the company are considering at least the up-armoured Challenger. The next announced kit will be the M3A2 uparmoured Bradley IFV due out in the Far East in the next month or two.

NEWS FROM DRAGON

Dragon Models have purchased the Trimaster range of kits. Word is that Dragon will re-release the 1:48th scale kits in a modified form without the white metal parts. It is suggested that this will drop the purchase price by 25-30 per cent. Fans of the World War 2 Luftwaffe will be pleased and it will be interesting to see how the company will expand the range in the future. There is no news on the future military kits after the Scud-B and ZSU-23/4 Shilka due for release by the end of the year. It has been reported from several sources that the steam has gone out of

modern Soviet armour as a modelling theme and sales of Dragon kits in some countries have been less than expected. For myself, I would hope that the company will balance out its range with perhaps some NATO armour and World War 2 subjects.

Accurate Armour are now getting back on track with the published list of releases I gave earlier in the year. By the time you are reading this the Desert Storm Scorpion, Scimitar and Warrior will have been released along with the Spartan, Spartan MCT and BT-7 kits. The next releases are the Sultan armoured command vehicle, Tetrarch Mk.I light tank and the M18 Hellcat tank destroyer. By the end of the year the company hopes to have all the kits announced for this year on release. For more information the address is Accurate Armour, Unit 16, Ardgowan Street Industrial Estate, Port Glasgow PA14 5DG. The latest price list is now available for the cost of a stamped addressed envelope.

Paul Woodman



AIRFIX MAGAZINE — PAGE 217



NORTH AMERICAN T-6 TEXAN/HARVARD

By Greg Kerry

DESIGNED in 1935 as an advanced trainer the T-6 was built in truly prodigious numbers. Over 16,000 were produced in the USA alone while licence production in Canada, Australia and Sweden added considerably to this total.

At one time or another the T-6 has served with just about every air force this side of the former iron curtain. In 1985, the year of its 50th anniversary, at least 20 nations were still using it operationally — though not merely for training. After the end of World War 2 the availability and operational economy of the type led to its being used for counter insurgency and light ground attack work in many of the world's post-war hotspots. The RAF used it in Kenya and Malaya, the Americans in Korea, the French in Algeria, the Israelis in the Middle East and countless operators in South America and Africa followed suit. Machine guns, light bombs, rockets and napalm canisters were all toted, with

varying degrees of effectiveness by this originally peaceful machine.

With its blunt round fuselage and square stubby wings the T-6 has a slightly portly air about it. Its main distinguishing features are the blunt nosed cowl housing the Pratt and Whitney R-1340 nine-cylinder radial and that long 'greenhouse' canopy under which many a nervous student pilot must have sweated in the glare of a blazing sun.

It has been said of the type that it 'defied the rules of obsolescence and ignored its own obituary'. Today there are still many T-6s hard at work around the world although the USAF apparently now has none at all and the RAF only has the odd couple — based at the A&AEE, Boscombe Down and used for flight testing rather than any form of training.

T-6 KITS

Trainers tend not to be all that

A participant at UK air shows is this RCAF trainer in overall yellow with faded red dayglo patches. Note the lack of doors on the main undercarriage.

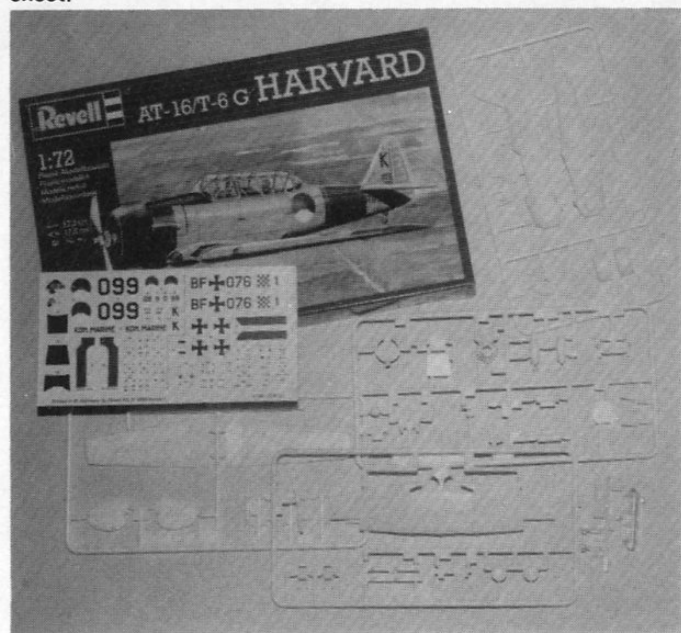
popular with kit manufacturers and even if it is one of the most famous aircraft of all time very little polystyrene has been devoted to the Texan/Harvard family.

The very first such kit to appear was of the US Navy SNJ version under the now defunct Aurora label — to 1:48th scale. Apparently it was a crude and heavily detailed kit

completely surpassed by the later product to the same scale from Monogram.

First 1:72nd scale kit came from another American company, Hawk, available in both SNJ and AT-6 versions. This too, though state of the art in its day, seemed terribly crude when compared to the later Airfix model which has been with us for many years now.

The Revell/Heller 1:72nd scale model with well detailed decal sheet.



Box top of the Revell/Monogram re-issue.

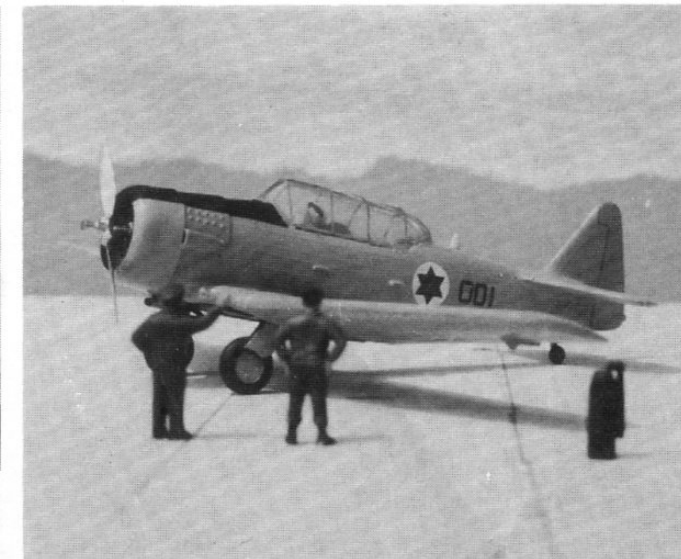
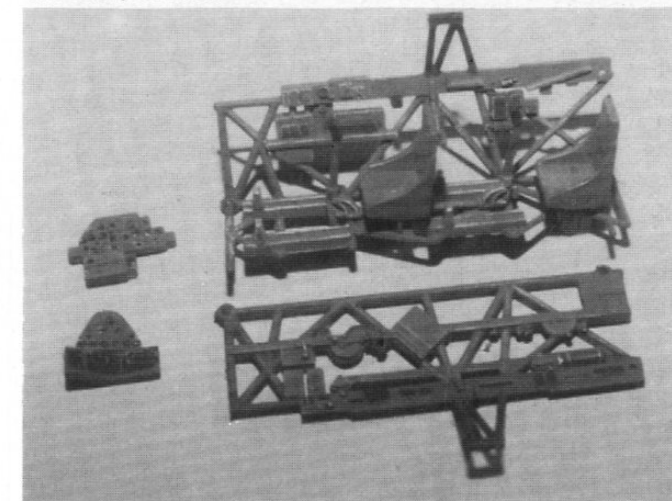
However, this too was surpassed several years ago by the appearance of a rival kit from Heller — undeniably the best yet in this small scale.

AIRFIX 1:72nd SCALE KIT

Although a reasonable kit this product shows its age. Heavy rivet detail is the worst thing while in other respects it's the lack of detail that shows: the cockpit has little more than the barest representation of a pair of seats while the engine is moulded integrally with the cowl. Past incarnations of the kit had markings for one of the RAF machines used for ground attack work during the Mau Mau uprising in Kenya with underwing bombs then being provided. The current kit contains two sets of reasonable decals for alternative RAF machines in present day use both sporting predominantly yellow paint schemes. Alas, now that the former Heller kit is once again available there should be little incentive to spend money on the Airfix product.

REVELL/HELLER 1:72nd SCALE MODEL

Why on earth Heller should have sold its T-6 moulds to The cockpit detail.



The old Airfix kit finished in trainer yellow and Israeli national insignia with black anti-dazzle panel and code 001.

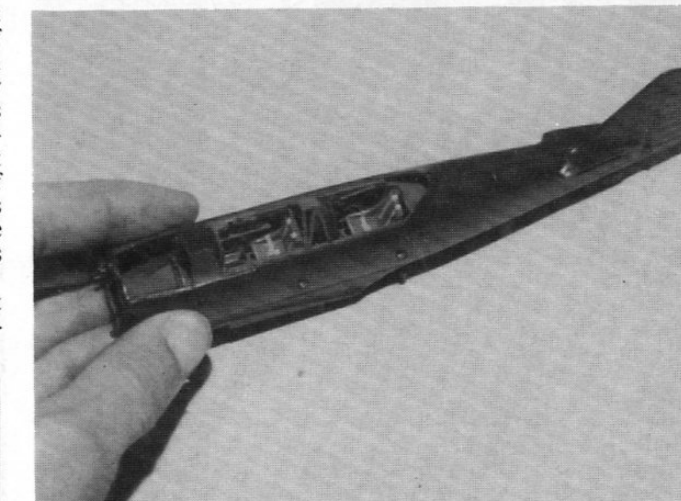
carriage doors (which are often removed from service machines as with the two kit subjects) nor extended exhaust pipe. But then the doors could be fabricated from plastic card and the exhaust from sprue should the need arise. And apart from that this is a fine little kit.

REVELL/MONOGRAM 1:48th SCALE KIT

Originally one of the old Monogram quarter-scalers, this kit is excellent. Like the best of Monogram's 1:48th scale range the T-6 has the sort of cockpit detail you don't

these old 1:48th scale kits released under the new label — and a jolly good thing too.

Although the kit parts are all characteristically Monogram the new decal sheet is all Revell. Unlike with the smaller T-6 offering Revell provide decals with this kit totally at odds with the usual military trainer schemes. In fact, they're for one of the National Air Racing aircraft named *Miss Behavin'*. Resplendent in an all red paint finish with broad white stripes around wings, fuselage and cowl this makes for a very striking and rather unusual model. *Miss Behavin'*, despite seeming to be



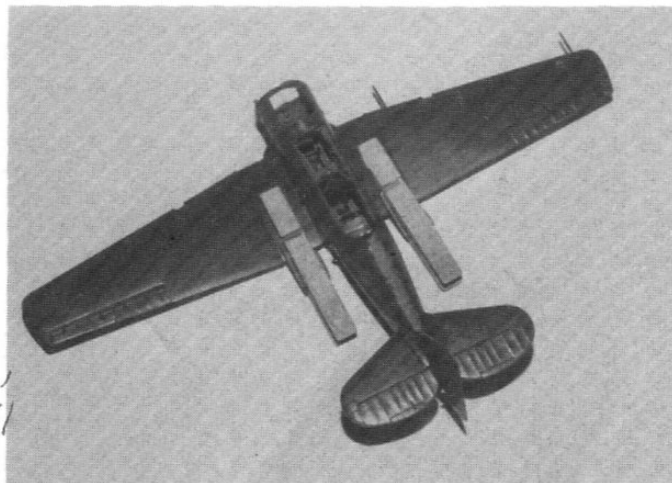
The fuselage.

really expect to find in anything less than 1:32nd scale. With a fine one-piece engine moulding and good flap and undercarriage detail the only thing that mars the kit and reveals its age are the rivets — but even these aren't too prominent.

Now that Revell has taken over its former competitor, Monogram, we can probably expect to see a lot more of

a pretty stock looking aircraft, was a consistently high performer some years ago winning its class of the National Championships in 1981 and 1982.

Having the new kit to hand I decided to make it up — not as *Miss Behavin'* — but as representing a more warlike Israeli machine in camouflage paint which served in the ground attack role during the Middle



The wings mated to the fuselage.

East wars of the late 1940s and early 1950s.

CONSTRUCTION

Although it is normal practice, in these days of ever increasing standards, to sand down over prominent rivet detail I opted not to do this with the T-6 kit. The moulded detail is probably more obvious than it ought to be but it's not as unsightly as is so often the case with kits first moulded ten or 20 years ago. Still, the choice is yours.

COCKPIT

As I mentioned earlier the cockpit detail is simply

Filling in the cracks on the nose fairing.



splendid — only possible item missing is the blind flying hood usually carried folded behind the rear seat though obviously this would have been removed from many aircraft especially those seconded from the training role. Oh, and the seat belts, though these can easily be added cut from metal foil or sticky tape, whatever your personal preference.

To get the best out of the plethora of cockpit detail, especially that moulded onto the separate sidewalls, some careful painting is worth the trouble here, picking out the

main instrument clusters and then perhaps drybrushing in white to emphasise hardest edges and sharpest corners.

There are no instrument panel decals provided (as there are with the ex-Heller kit) so the fine detail here has to be drybrushed too. Paint the dials black first, then drybrush white, then gloss varnish.

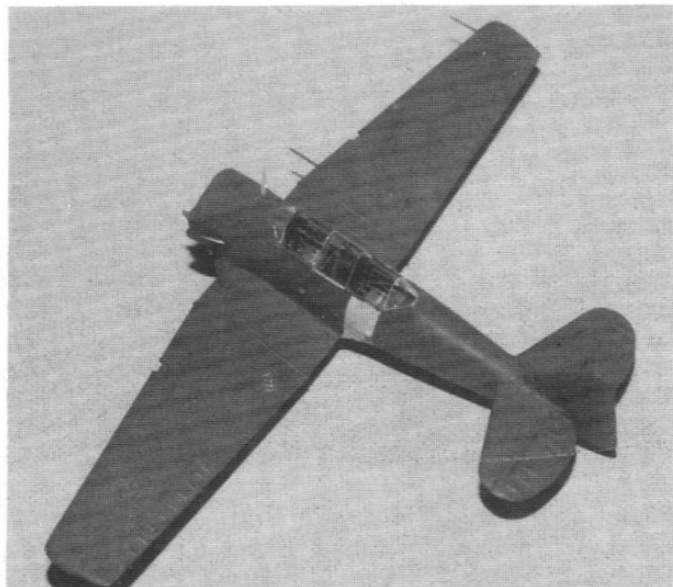
FUSELAGE

Before getting the fuselage together I decided not to fit the transparency (part 56). These are the navigation lights and should be coloured red (from the front), green and amber. If the kit part is fitted it will make

cleaning up the fuselage joint around it very difficult. Better to block the holes with plastic card inside the fuselage. Then, with the fuselage joint seen to, a blob of paint in each hole provides the colour and Krystal Kleer will provide the glazing. This, by the way, is one feature absent from both 1:72nd scale kits but easily added using the same methods.

Otherwise getting the fuselage together is no problem provided sticky tape or elastic bands are used to clamp the joints together overnight.

After this I skipped the



The cowling and engine were added after much of the other construction and some painting had been completed.

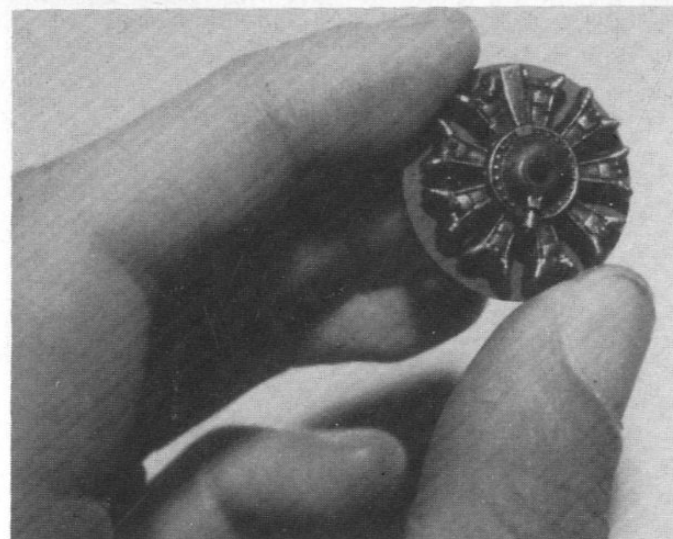
engine installation stages and added the wings and undercarriage instead.

WINGS AND TAILPLANE

The tailplanes fit pretty well although I did use a touch of filler to blend over their joints. The main wings are not quite such a good fit but can be glued together, stuck to the fuselage and then clamped (with clothes pegs) overnight just to make sure.

At this point I added the nose fairing (part 11) which required a little white glue to fill a gap along part of its joint with the fuselage. Then, before flaps, undercarriage and final details, I gave the model its first undercoat. I prefer doing this now just to check the major joints before adding the finer details which might otherwise get in the way of any additional filling and sanding that might be necessary. Also, I was leaving the engine and cowling off as the latter was to be painted red and thus best

The engine detail.

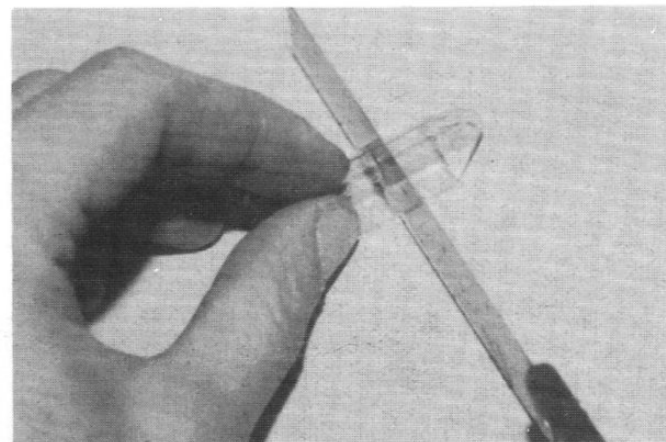


fitted after the main painting had been done.

DETAILS AND CANOPY

Flaps, undercarriage and carburettor intake were all added now with no difficulty. Next was the canopy. This is provided as a three part item in nice, clear plastic. However, because the cockpit interior was so good I wanted to have the two sliding sections of the canopy open and it seemed like a fairly easy option with this kit. Replacement sliding sections (front and rear) would be needed but because these are simply flat sections curved to shape the miniature components could be made the same way from thin transparent sheet — the kind cut from bubble packaging.

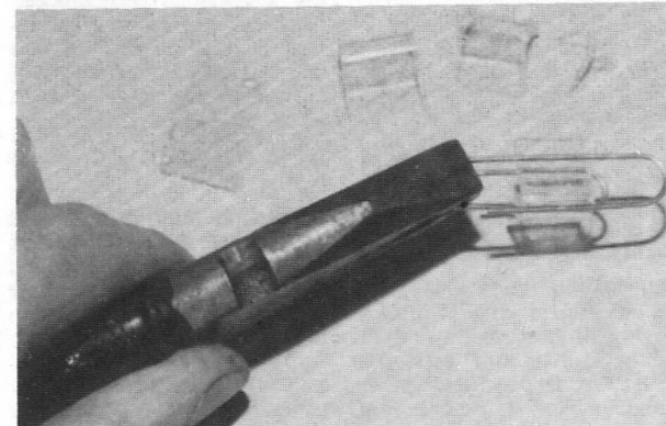
First, the rear part of the canopy (part 58) was sawn into three. Replacements for the two sliding sections were then cut to size although slightly taller thus overlapping the originals along their lower



Canopy surgery.

horizontal edges. The replacements were then fixed inside the originals using paperclips. The clips could then be gripped in a pair of pliers so that the whole thing could be suspended in the steam of a boiling kettle just long enough to persuade the replacement canopy section to conform precisely to the shape of the

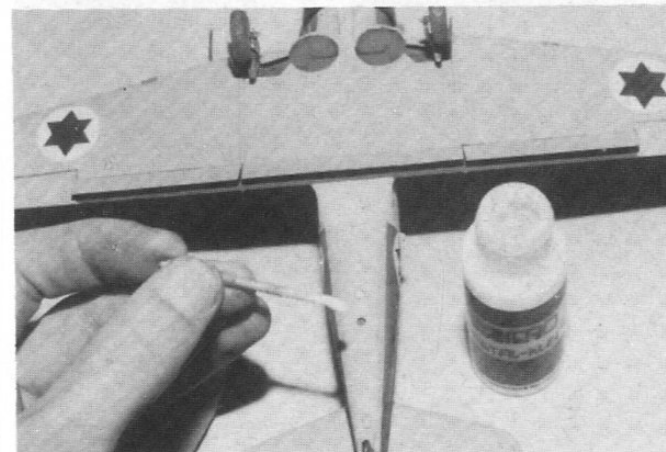
Replacement canopy framing.



original. This is much easier than moulding replacements from thick acetate sheet or similar and serves well enough.

With the replacement transparencies sorted out they were left aside until the main painting had been completed, only the fixed canopy sections were glued in place now. As was the aerial mast just ahead and to one side of the windscreen.

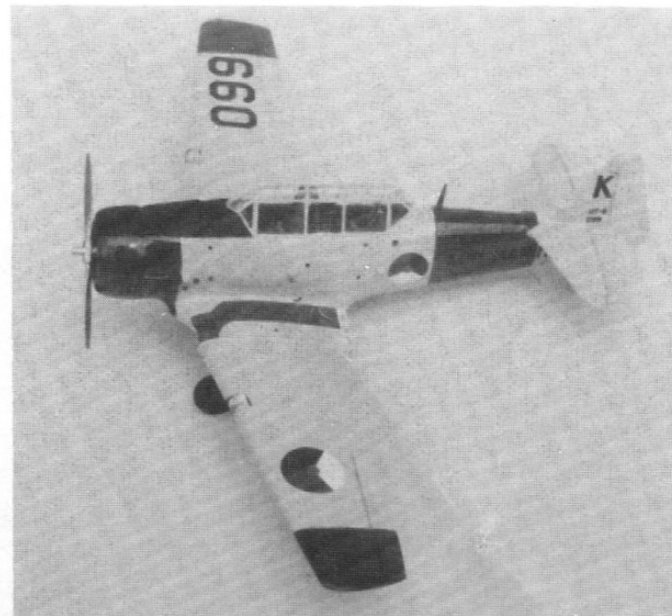
Navigation light glazing.



This is not provided in the kit but was easily trimmed from scrap plastic and illustrates the main point of variation between various T-6s. Because they have been employed by such disparate users the avionics fit varies greatly from air force to air force resulting in a variety of different aerals, masts and so on.

MAIN PAINTING

Besides the red cowling the Israeli machine needed a yellow fuselage stripe: this I masked off and painted first. Then came the underside pale blue followed by the dark earth and blue-green upper camouflage. That yellow stripe was applied first because, had it been painted over the other



Many of the small stencil decals are shown in this side view of the Revell model.

colours, either the upper and lower surface demarcation or that between the two upper surface colours might well have shown through.

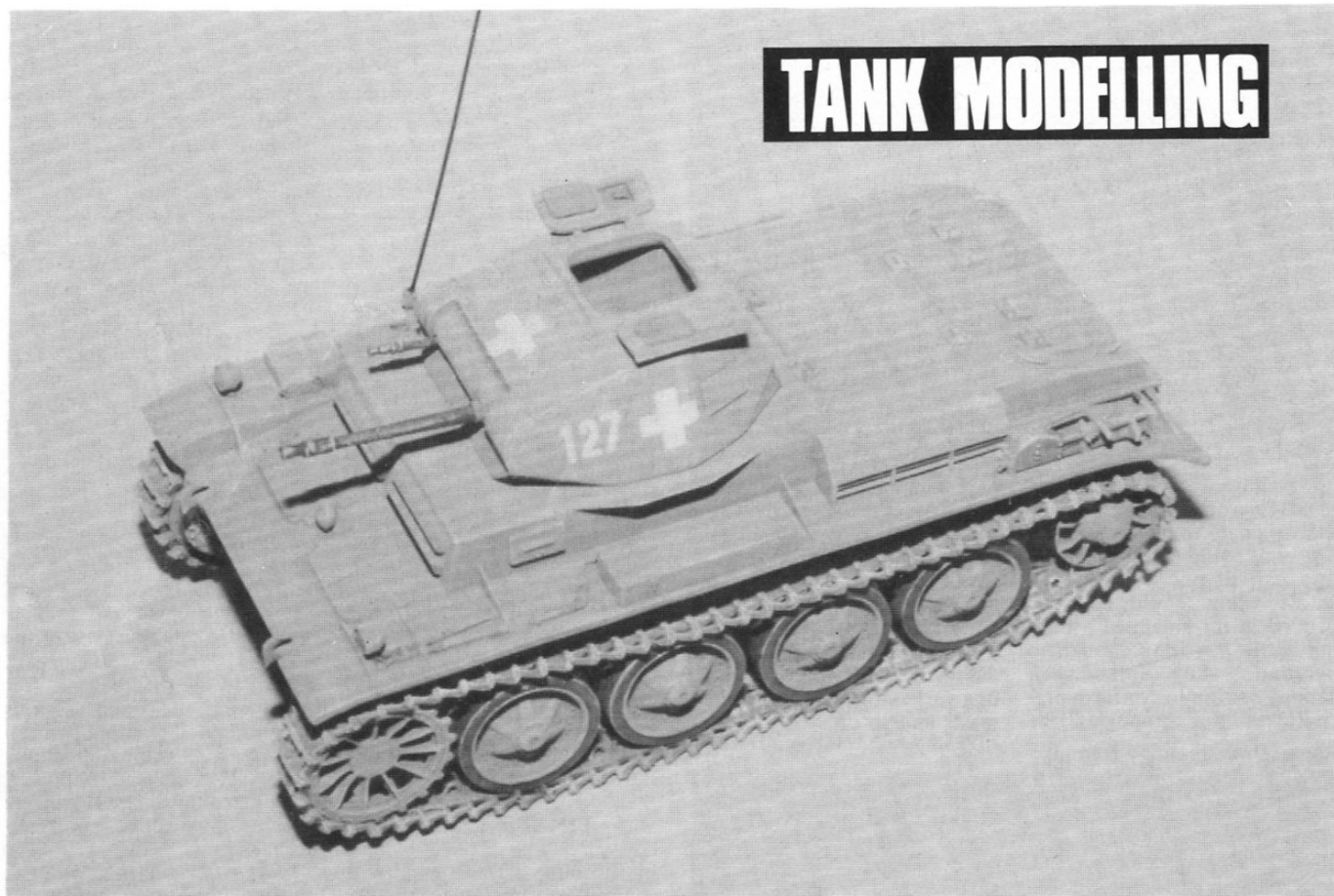
FINALISATION

In finishing off the canopy I committed an unforgivable faux pas. I had assumed that both sliding portions of canopy slid to the rear and this is how I finished the model. Later, after photographing it of course, I discovered that the rear section, contrary to all reasonable expectations, in reality, slides forward beneath the fixed centre section and the rearward sliding forward section. Such are the pitfalls of modelmaking but at least now no one else has an excuse for making the same mistake. My model has since been amended — though not with an axe as my first impulse almost

The completed model resplendent with weathered paint finish and faulty rear canopy.



TANK MODELLING



GERMAN LIGHT TANKS IN WORLD WAR 2

By Paul Woodman

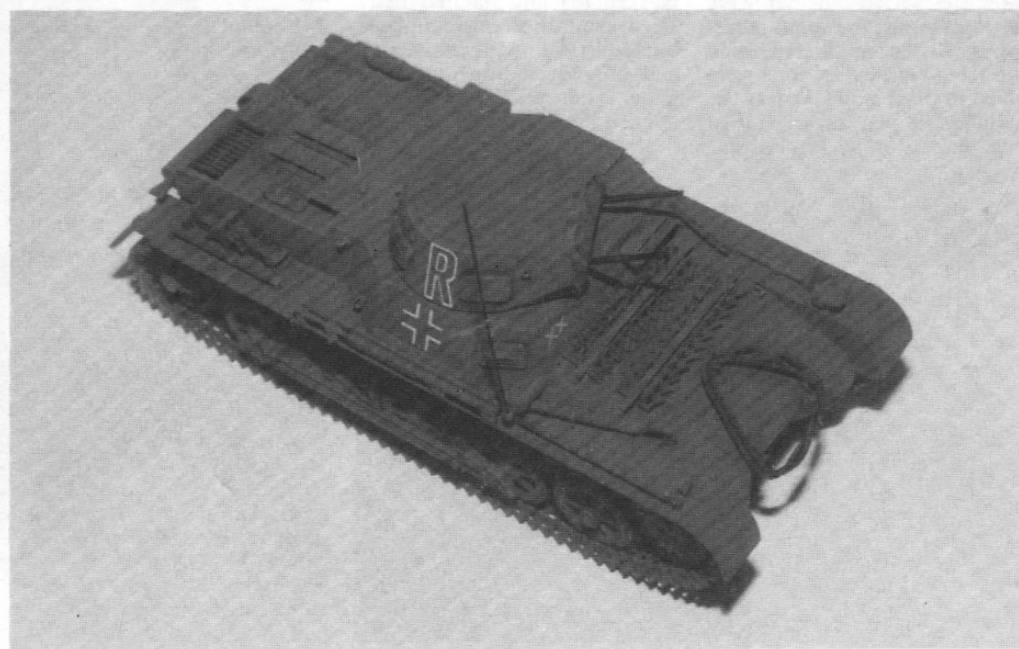
AFTER its defeat in World War 1, Germany was banned from producing tanks and its army was not allowed to equip with them. However, both Sweden and the Soviet Union gave Germany secret production, testing and training facilities from as early as 1925, though in Germany itself only a few armoured cars were produced. The situation changed dramatically in 1933 when Hitler came to power and his policy of rearmament was put into practice.

At first the production of tanks remained clandestine and the first vehicles were designated as Leichttraktor (light tractor) and Grosstraktor (heavy tractor). Officially described as agricultural vehicles these were, in fact, Light and Medium tank designs. It soon became obvious that Hitler was up to as other proscribed

Typical markings for 1940 are skelital crosses, red/white turret letters and numbers and yellow divisional sign.

weapons such as aircraft, heavy artillery pieces and submarines were also being constructed. The other major

powers of the time had mixed feelings on the rise of German military power, Italy and the Soviet Union saw Germany as

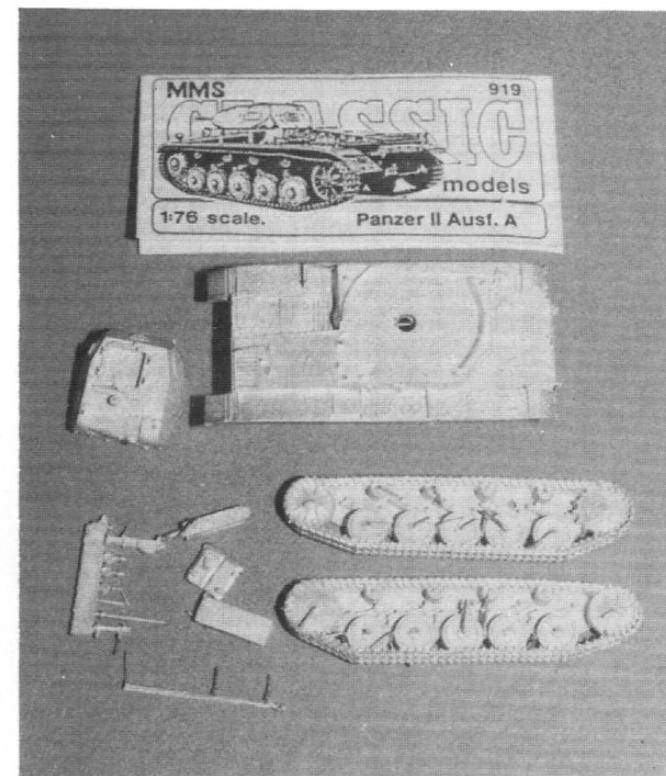


A Panzer II Ausf C by Cromwell Models.

a potential ally, Britain and France were plagued by weak governments unable to act and the United States couldn't care less what was happening in Europe.

KRUPP FIRST

Designs were submitted by Rheinmetall, Daimler-Benz, MAN, Henschel and Krupp for the Landwirtschaftlicher Schlepper (agricultural light tractor) which was to become



MMS provide almost the whole range of Pz IIs in 1:76th scale.

the prototype of the Panzerkampfwagen I. The Krupp LKA-1 was chosen in the five ton class and a rival design by MAN was chosen for the ten ton class. Krupp was first off the mark putting the PzKpfw I into production in 1934 as the PzKpfw I Ausf A (SdKfz 101). The design owed much to the Carden Loyd Mk.I tankette chassis, one of which was purchased in 1932 as a light gun tractor. It was a small vehicle in the tankette class with a crew of two and armed with twin 7.92 mm machine guns and armour from 7-13 mm giving it a fully laden weight of 5.4 tons. The engine was a 60 hp Krupp M305 four-cylinder petrol engine giving a maximum speed of 23 mph which was quite modest for a vehicle of this size and weight. Internal fittings were basic and the crash type gearbox made it a tiring vehicle to drive.

In 1935 the improved Panzerkampfwagen I Ausf B was put into production at the Krupp factory. Though it had the same armour and armament as the earlier vehicle it had many detail improvements with better trackwork and more powerful 100 hp engine to increase performance. The PzKpfw I Ausf B was the main production version and over 2,000 were ordered to equip the first Panzer divisions. It was regarded as an interim design useful for training until something better came along, larger vehicles were being developed but their more complex design

Panzer Ib built from the Italeri kit.

meant slower production rate. The main difference between the two models was that the Ausf A had four roadwheels while the Ausf B had five and the idler wheel was raised off the ground.

LARGER SIZE

MAN put the Panzerkampfwagen II into production in 1935 as a light tank in the ten ton class, though in fact the Ausf A weighed just over seven tons laden. It had cannon armament with a co-axial 7.92 mm machine gun and armour up to 14.5 mm thick. The extra weight was due to the larger physical size rather than thicker armour and the crew remained at two men. It was

powered by a 130 hp Maybach HL-62-TR petrol engine which gave a maximum speed of 25 mph and a range of 120 miles. Like the PzKpfw I, the PzKpfw II was considered an interim design until the PzKpfw III and IV were ready for mass production. Unfortunately early models of the PzKpfw II had many mechanical problems, the Ausf A was built in three models a-1, a-2 and a-3 all differing in minor details but all having 'beam' type suspension with six paired road wheels each side of the hull.

The PzKpfw II Ausf c introduced the new elliptic spring suspension and five large diameter road wheels. The superstructure was more angular and the armour was increased to 30 mm, this raising the weight to almost nine tons laden, a gain of almost two tons. The crew was increased to three and to compensate for the extra weight the engine output was increased to 140 hp. This was the best of the early models and up to 2,000 were built by MAN and other contractors and most of the earlier vehicles were rebuilt to 'c' standard.

The PzKpfw II Ausf D was built by Daimler-Benz in 1939 and differed from the MAN vehicles by using the Famo/Chistie type suspension with four larger road wheels. This was the fastest of the early PzKpfw IIs with a road speed of over 35 mph on the same engine as the Ausf c. But despite this the cross country performance was poor and after the campaigns of 1940 it was removed from front line units and the hulls were converted to specialist use. Models 'A', 'B' and 'C' were production versions of the 'a', 'b' and 'c' development vehicles respectively, this irregularity in

designations seems to be confined to the PzKpfw II series.

In the autumn of 1940 the PzKpfw II Ausf F was introduced as an improved model incorporating the lessons learned in combat. It was similar to the Ausf C but had the full width drivers plate as on the Ausf D and flat nose plate. The armour was thicker and a modified gun with higher velocity was fitted. With the failure of the Famo type suspension with subsequent loss of speed. The Ausf G and J were similar to the 'F' but had a turret bin and some interior detail changes.

'LYNX'

Germany's last light tank design was the VK1303 Panzerkampfwagen II Ausf L, which was later named the Luchs (Lynx). It was decided to produce a heavily armoured version of the PzKpfw II in the autumn of 1940. Designated the VK1601 it was built by Daimler-Benz using the chassis of their PzKpfw II Ausf D but with armour increased to 80 mm at the front and 50 mm on the sides. However, this project was soon dropped because of a lack of interest in light tanks by the German High Command. Resurrection came in 1941 when the VK1602 'Leopard' was built as a reconnaissance vehicle armed with a 5 cm gun. This too was cancelled in 1942 in favour of the Puma armoured car, but its features were perpetuated in the VK1301 built in April 1942. This vehicle was the first prototype of what was to become the Lynx and had features of both the VK901, another Pz IID based development vehicle and the VK1602 Leopard. Two more prototypes, the VK1302 and VK1303 quickly followed and the design was finalised in





early 1943.

The PzKpfw II Ausf L was vastly different from other PzKpfw IIs with interleaved road wheels and torsion bar suspension. It was slightly wider and higher than the original vehicle and it was heavier at almost 12 tons, but the armour was slightly thinner in some areas. Production was shared between MAN who built the hull and Daimler-Benz who produced the turret. The first batch of 100 vehicles were armed with the 2 cm cannon while a second batch of 31 tanks were armed with the 5 cm gun of the Puma armoured car. These vehicles also featured spaced armour on the front plate. At 38 mph the Lynx was the fastest German tank of the war, but like the British the Germans preferred to use armoured cars for reconnaissance and so few were built.

CZECH DESIGNS

As well as their own indigenous tanks designs, the German Army was able to equip itself with some captured vehicles from subjugated countries, especially from Czechoslovakia. By far the most successful European tank design was the LT-38 built by CKD/Praga TNHP, a nine ton vehicle armed with a 37 mm anti-tank gun. Czechoslovakia had two armament manufacturers, Praga and Ceskomoravka Kolben Danek (CKD), the latter being involved with light tank manufacture since the early 1930s and was responsible for the LTLH series of light tanks from which the TNHP was developed. The TNHP or LT-38 was first produced in 1937 and

PzKpfw II Ausf D. Note the positions of the tools.

entered service in 1938 with Praga and Tatra joining the programme.

When Germany annexed Czechoslovakia the LT-38 was kept in production for the Wehrmacht as the Panzerkampfwagen 38t. The tank had armour from 8-30 mm maximum and was armed with two 7.92 mm machine guns and one 37 mm anti-tank gun. It had a crew of four: driver, hull gunner, loader and commander. Unlike German light armour, the PzKpfw 38t had riveted construction with some of the upper hull plates bolted down for easy replacement when damaged. The engine was a Tatra six-cylinder petrol engine of 150 bhp giving a maximum speed of 25 mph and a range of 125 miles.

Other light tanks in German service included the Skoda

LT-35 also from the Czech Army and French Hotchkiss H35-39, Renault AMC-35, FT-17 and R35. The LT-35 was designated the PzKpfw 35t and like the LT-38 it was produced for Germany and Romania though not in as greater numbers. French tanks were designated PzKpfw 17R 730f (Renault FT17), PzKpfw 35R 731f (R35), PzKpfw 38-H 734f (Hotchkiss). Because of the one man turret French tanks were considered unfit for front line service and were used only for policing duties, though some were supplied to the Italians. A small number of Polish 7TP tanks were used by the Germans as the PzKpfw 7TPp.

With the exception of the Lynx, all the light tanks in use by the Wehrmacht were at one time or other converted to

The big wheel Famo suspension was used only on Ausf D and E models.

specialist use, usually the chassis being used as the basis of self-propelled artillery. Typical were the Panzerjäger Ib, SdKfz 124 Wespe, Marder I-III, Hetzer and SiG.33, etc. By far the most successful were the Marder and Hetzer tank destroyers based on the PzKpfw 38t which was withdrawn from service as a gun-tank in 1942.

SCOUTING

The PzKpfw I and II were the backbone of the Wehrmacht during the early campaigns in Poland and France, with something like 4,000 in service. Its light armour and armament meant that light tanks were used mainly for scouting or encirclement of defending troops and positions. It was shown in the Spanish Civil War that lightly armed troops were vulnerable to the light tank and the Wehrmacht gained such experience operating mainly PzKpfw Ibs with the Nationalist forces. The PzKpfw I was the equivalent to the British Light Tank Mk.VI, but was slower, less agile and not as well armed, but it was available in large numbers which to some extent offset the disadvantages.

In Poland Panzer losses were relatively light as the defenders were poorly equipped and most divisions had not even been mechanised. The few tanks available to the Polish Army were divided up between the infantry units and as such were easily dealt with. Massive air power sealed the fate of Poland as the Polish troops

were forced into enclaves that were bombed incessantly. Most models of the early light tanks were used including the PzKpfw Ib, PzKpfw II A-D and a few ex-Czechoslovakian PzKpfw 35t and 38t tanks which were by far the best performers.

On 9 April 1940 the Germans invaded Denmark and Norway and again the light tanks were much in evidence as the heavier Panzer III and IVs were still only available in small numbers. Again the action was almost all one-sided, only Norway putting up resistance and the British and French arriving too late to assist effectively.

The Battle of France was the watershed of the light tank with both sides fielding huge numbers. The German war machine was much the same as that which had crushed Poland only a few months before, but with more Czech tanks now in service. France fielded large numbers of Renault and Hotchkiss light tanks and the backbone of the BEF was the Light Tank Mk.VIb. The British tank was fast and agile but it lacked the armament to engage anything larger than the PzKpfw I. The French tanks were better armed and armoured than the German ones but lacked communications as few were fitted with radio sets. The battle itself was a disaster for the Allies with the French committing too many troops to static defences which the Germans simply bypassed. The failure of the Maginot Line destroyed what morale the French Army had left and defeat was inevitable.

The British too blundered when Churchill ordered the BEF to rescue the Belgian Army after the neutral country was invaded by German forces. Prepared defences were abandoned as the British advanced into Belgium where they were

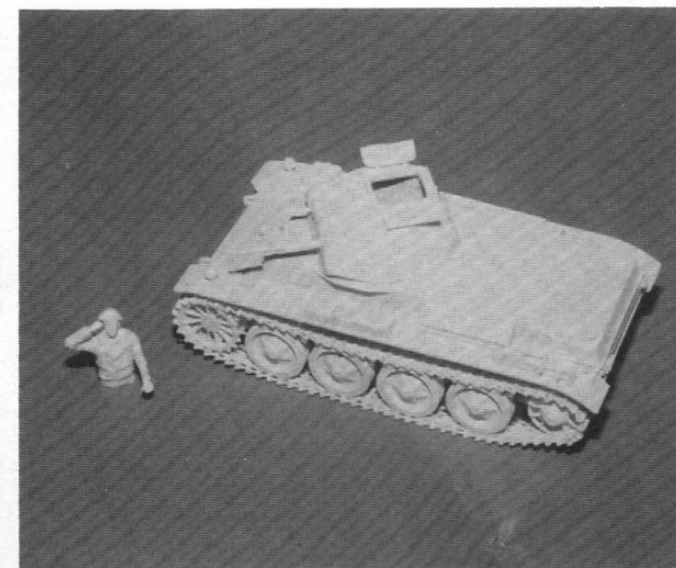
caught in the retreat of thousands of panic stricken refugees. The 1st Armoured Division sent to reinforce the BEF arrived too late to do anything and was withdrawn a few days later leaving much of its equipment behind.

Though the German Army was victorious, they had suffered losses and in particular the light tank units had been mauled. But increasing numbers of Medium tanks coming into service meant that the light tanks were used only for reconnaissance and production was phased out. Some Panzer I and II tanks saw action in North Africa with the Afrika Korps and in Russia where large numbers of PzKpfw 38(t)s were in use. By 1942 many light tank hulls had been converted to self-propelled guns and their place as reconnaissance vehicles taken by armoured cars and half tracks. The Luchs was built in small numbers, some would say a waste of resources and production facilities. They were used alongside the SdKfz 234/4 Puma in France and Russia, few if any were sent to Italy.

In summing up German light tanks suffered from the same inadequacies as did Allied designs. But in combat there was less pressure on the German Army to use light armour for tasks which they were not intended and as such they were not subjected to the same criticism as British and Soviet designs. When the tide of war had turned almost all German light tanks had been rebuilt as self-propelled guns, usually with open top fighting compartment. In this role they were if anything even more successful than their original, especially the Wespe, Marder and Hetzer.

KITS

Plastic kits of the PzKpfw Ib



Panzer II D with crewman in 1:35th scale from Cromwell Models.

and PzKpfw II Ausf F have been around for quite some time, the former from Italeri and the later Tamiya. As well as the standard kits a command variant of the Pz I is also available as are kits of the Czech PzKpfw 38(t), Marder and Hetzer. In small scale MMS have released all the Pz II versions not covered by plastic kits and these are very fine models indeed. For this article I decided to build the new Cromwell Models PzKpfw II Ausf D which is an ideal kit for the novice to the joys of resin.

CAMOUFLAGE AND MARKINGS

From the outbreak of war until January 1942 the standard colour for all vehicles was field grey, sometimes referred to as panzer grey. With almost total air superiority there was no need for disruptive camouflage painting and examples during this period are rare. During the Polish campaign plain white markings were the rule with rectangular air recognition markings on the engine deck. Divisional markings were not usually carried. Later on in the battle some units adopted a more subdued pale yellow cross with a white outline.

In France the Panzers adopted a skeletal form of cross which was really a partial white outline. Tank numbers remained mainly white, but both in France and Poland there were exceptions to this rule, alternative colours could be red/white or yellow. Divisional markings were in white or yellow depending on the unit and 'arm of service' symbols were white.

For operations in North Africa vehicles were sprayed in yellow-brown though the colour varied quite a bit from batch to batch.

Panzer's first opponent the Polish 7TP. This is the twin turret model.



SEPTEMBER 1991

SOURCE OF INSPIRATION



MOSQUITO MUSEUM

By R.L. Howells

THE Mosquito Museum is possibly the only museum in the world named after a specific aircraft. As its name implies it specialises in the de Havilland Mosquito. It further displays the many and varied products of de Havilland and its associated companies.

It is certainly the only museum in the world with three-and-a-half Mosquitoes. The most famous occupant is the prototype, W4050, preserved in a hangar built around it only a few yards from both its design office at Salisbury Hall and its birthplace in the nearby hangars, now sadly demolished. Restored to its prototype yellow colour scheme, it

The grand old lady of them all — prototype Mosquito W4050 on display in its hangar at Salisbury Hall.



A view of the main hangar — from left to right Hornet Moth, Mosquito B.35, Tiger Moth, Cierva C.24 Autogiro, Dove and Chipmunk.

would make an eye-catching subject for a model.

RESTORATION

In the next door hangar, there is an opportunity to compare the prototype's graceful lines with those of a late model B.35. You will find that the lineage is immediately obvious, despite the large number of intervening marks. The B.35, TA634 spent most of its RAF career as a target tower, glory

coming later as one of the stars of the film *Mosquito Squadron*. It has recently completed a long and comprehensive restoration and is now around 90 per cent complete.

Nestling under the wing of TA634 is the fuselage of the third Mosquito, an FB.VI serialled TA122. This aircraft has one operational sortie to its credit while with No.605 Squadron in 1945. The fuselage was donated to the museum by the Royal Netherlands Air



Outdoor exhibits DH.125 and Venom NF.3 in front of the Air France Comet 1 fuselage.

the exhibits, which allows detail shots to be taken with ease. You will need a flash, particularly in the prototype Mosquito's hangar.

The museum is run by dedicated enthusiasts, who are obviously in love with their charges. With little persuasion they will answer any questions at length. When asked what he would like to see next at the museum one of the restoration team replied, 'More hangar space, a Rapide, a Moth Minor and a Beaver'. I hope he gets his wish.

The museum is situated just south of junction 22 on the M25, near the village of London Colney and is open Sundays and Bank Holidays between Easter and September and Thursday afternoons between July and September. The telephone number for further information is (0727) 22051.

Force Museum and is to be mated to a wing (under restoration in the museum workshops) from Israel, generously flown to Britain by El Al. Other components have come from Malta, Canada and New Zealand, a truly international effort. Incidentally, this generosity is not all one way. The museum has donated spares to keep the British Aerospace Mosquito and Kermit Weeks example in the United States flying.

The half Mosquito is the forward fuselage section of TT.35 TJ118, which was used to film the cockpit interior sequences for the film's 633 Squadron and Mosquito Squadron. It too resides in the museum

workshop under active restoration.

OTHER EXHIBITS

Although the Mosquitoes are the stars of the show, there is a strong supporting cast. Tiger Moths, Vampire FB.6 and T.11, Venom and Sea Venom, Sea Vixen and DH.125 are all represented. One intriguing exhibit is the fuselage of a Comet 1A still resplendent in the markings of Air France and still bearing traces of the cocooning material used while in outdoor storage at RAE Farnborough.

The exhibits are packed fairly tightly together, making

Sea Venom FAW.22 and Sea Vixen FAW.2, both with wing folding capability restored.

photography of the complete aircraft difficult. On the other hand, there is close access to

The newly-restored Mosquito B.35 TA634 with the partly-restored fuselage of FB.VI TA122 nestling under its port wing. The positioning of the rope barriers in the photograph gives some idea of how close you can approach the exhibits to take detail shots.



MILITARY MODELS



DESERT PATROL

By Richard Randle

In a typical Saudi Arabian diorama base the author's model of the Hummer desert patrol vehicle looks very realistic. Tamiya have a set of US infantry figures to the same scale to add further realism.

As usual Italeri practice the instructions include exploded view diagrams and these prove very useful, beginning with the chassis assembly. For this the suspension and transmission

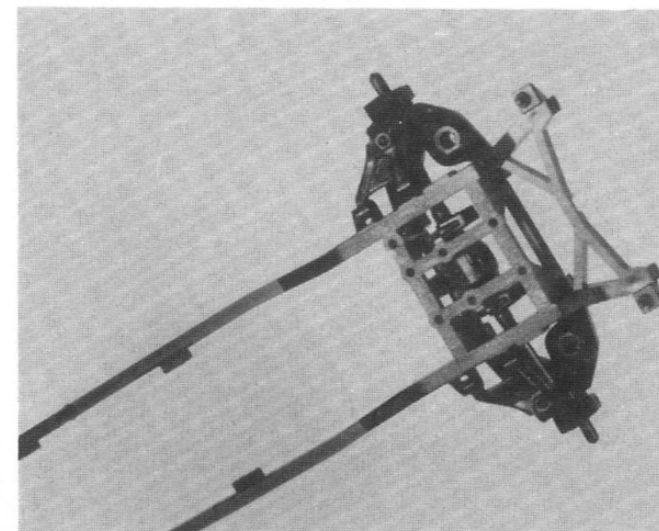
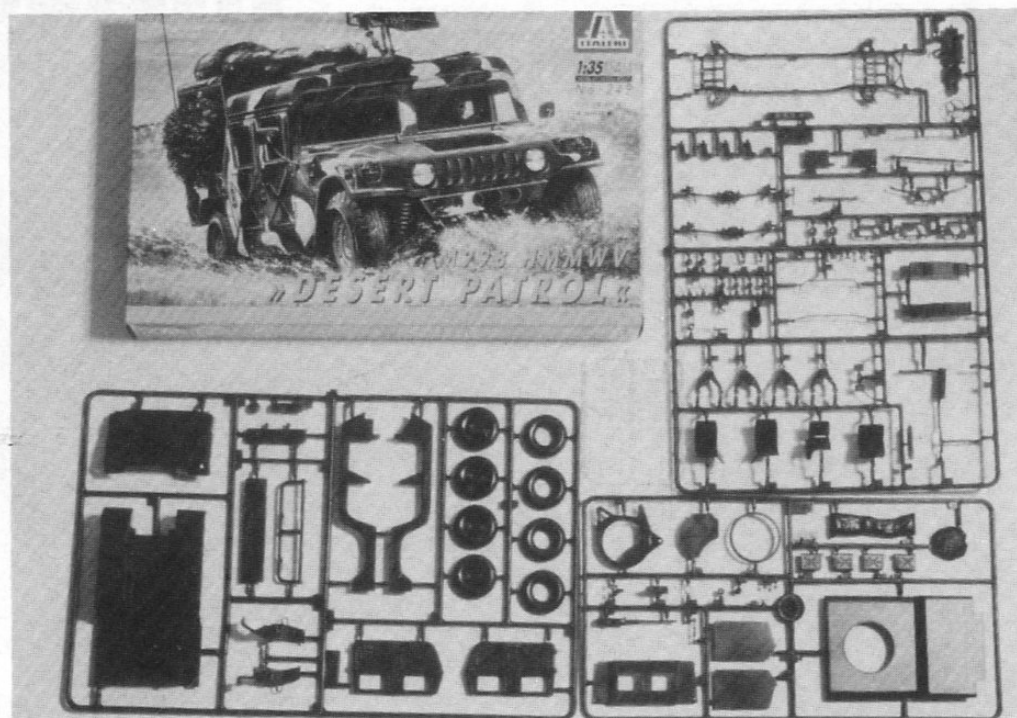
units are glued on both ends, followed by the engine and driveshaft. This is glued to the base of the vehicle where steering linkages are added, so too the exhaust pipe. The model is

OF all the various personnel carriers used to great effect in the recent Gulf conflict one of the most unusual and interesting is the M998 HMMWV Desert Patrol Hummer utility vehicle. Equipped with an M2 50 calibre gun, the Hummer armoured squad carrier, transported eight men as part of the all-essential reconnaissance and data gathering missions that ensured eventual success.

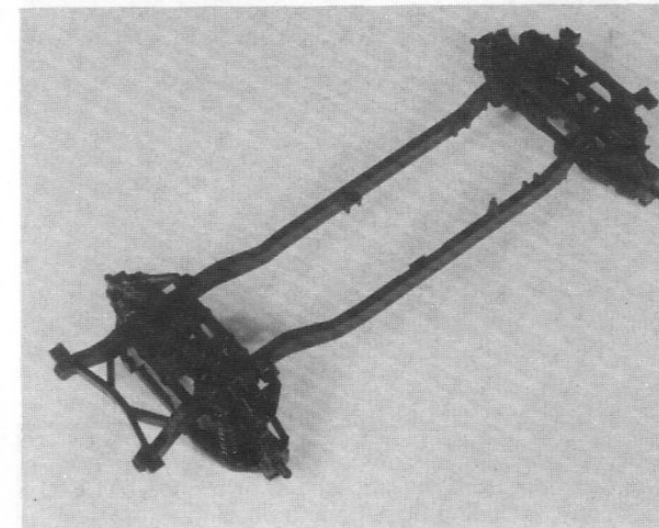
THE KIT

The Italeri Desert Patrol Hummer, kit number 249, totals 114 pieces moulded with considerable detail in a dark green plastic. Decals are minimal whilst transparent panels are included for the windscreen and windows.

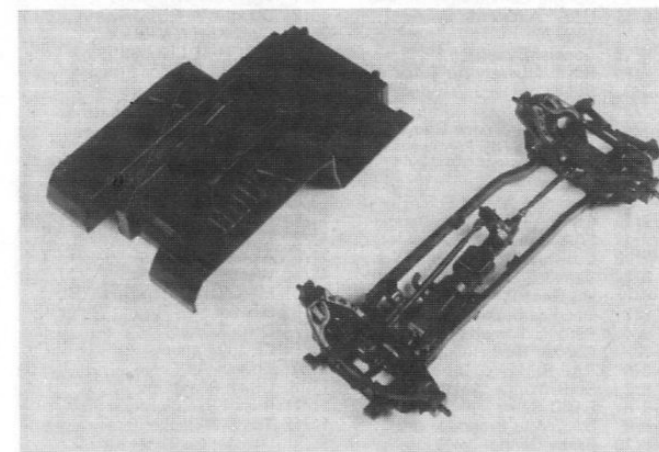
The Italeri Hummer consists of 114 pieces which are moulded in a dark green plastic, complete with a spartan but adequate decal sheet.



Fitting the rear and suspension units, plus transmission onto the main chassis member, taking care to ensure correct alignment.



Chassis assembly after securing of both fore and aft suspension components onto their respective location points.



Driveshafts attached to the chassis and cab base prior to mating.

Subscriptions cost so little

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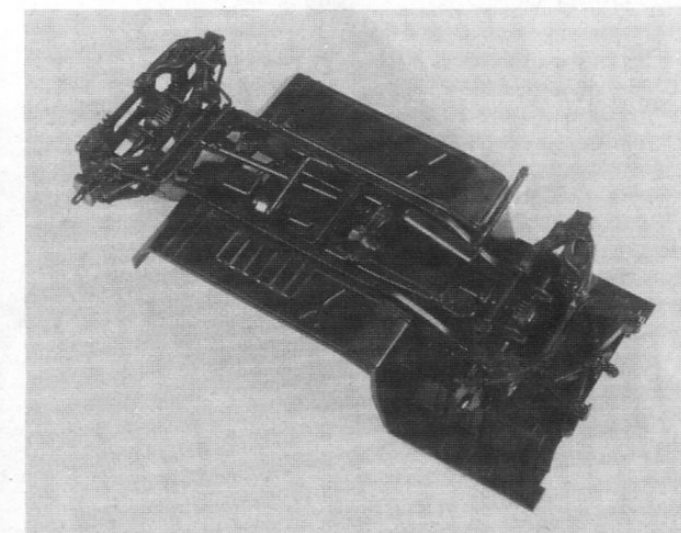
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then turned over and the cab detail is built up, seats, gear levers and lower cab sides, after which the doors, bonnet and windscreen are fitted.

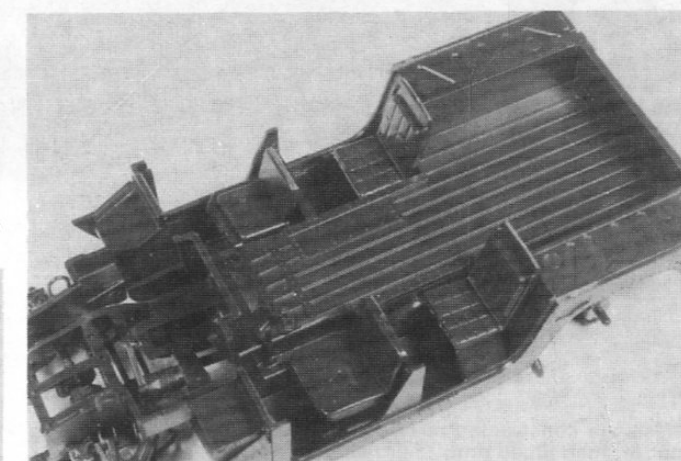
No spare wheel is included in the kit and the four provided are glued together, then added in turn to their respective axles. The M2 50 MG assembly is then sorted out and added to the cab roof, which after the

various 'glass panels' are fitted, is added to the wheels.

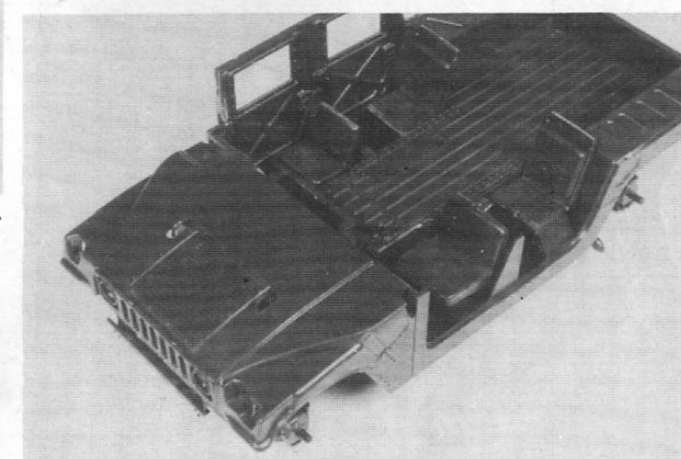
Various details form part of the kit which include a rolled canvas, netting, jerry cans and mirrors though no crew figures. Tamiya have a set of US infantry complete with Fritz type helmets and these can be used with this kit. Painting is quite straightforward, desert sand or the new Humbrol 250



Glueing the chassis and base components together, after which the steering linkages and exhaust pipe are added.



Building up the body, cab details, seats and gear change levers, the basic interior detailing.



Forward detail added, including radiator, headlamps, bonnet and the cab doors each of which can be modelled in an open or closed position.

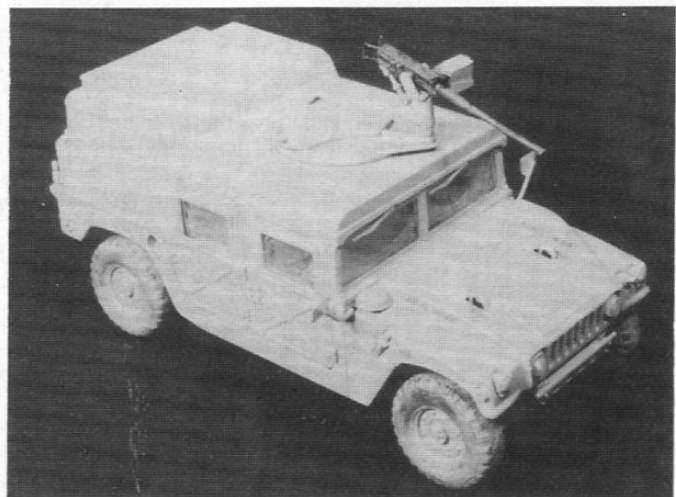
sand colour. The gun is then given a coat of gun metal and the tyres black, after which the various decals are applied.

To complete the model it was weathered by several washes of thinned and lightened desert sand, taking care to leave clean areas where the windscreen wipers had wiped away the dirt and sand. The tyres are given the same treatment and appearance, the end result proving most effective.

The Italeri M998 HMMWV Desert Patrol Hummer kit number 249 is but one of three versions currently on release, the other two being the special forces 'Stinger' and the standard version, kits 254 and 257 respectively. Retailing for about £5.00 and being of high quality, they are to be recommended for modellers of all ages and abilities and well worth adding to any collection of military vehicles.



The M2 .50 machine gun unit and mount assembled ready to add to the cab roof.



Hummer Desert Patrol vehicle replete in its Middle East guise, decals applied and the whole given a weathered look by several washes of thinned light sand.

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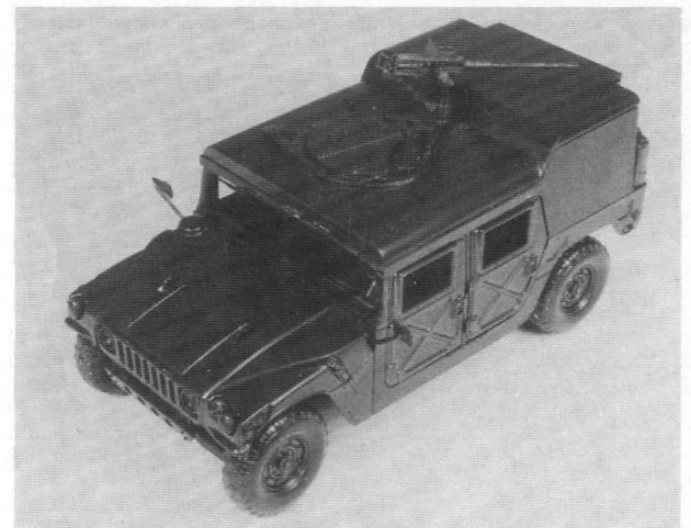
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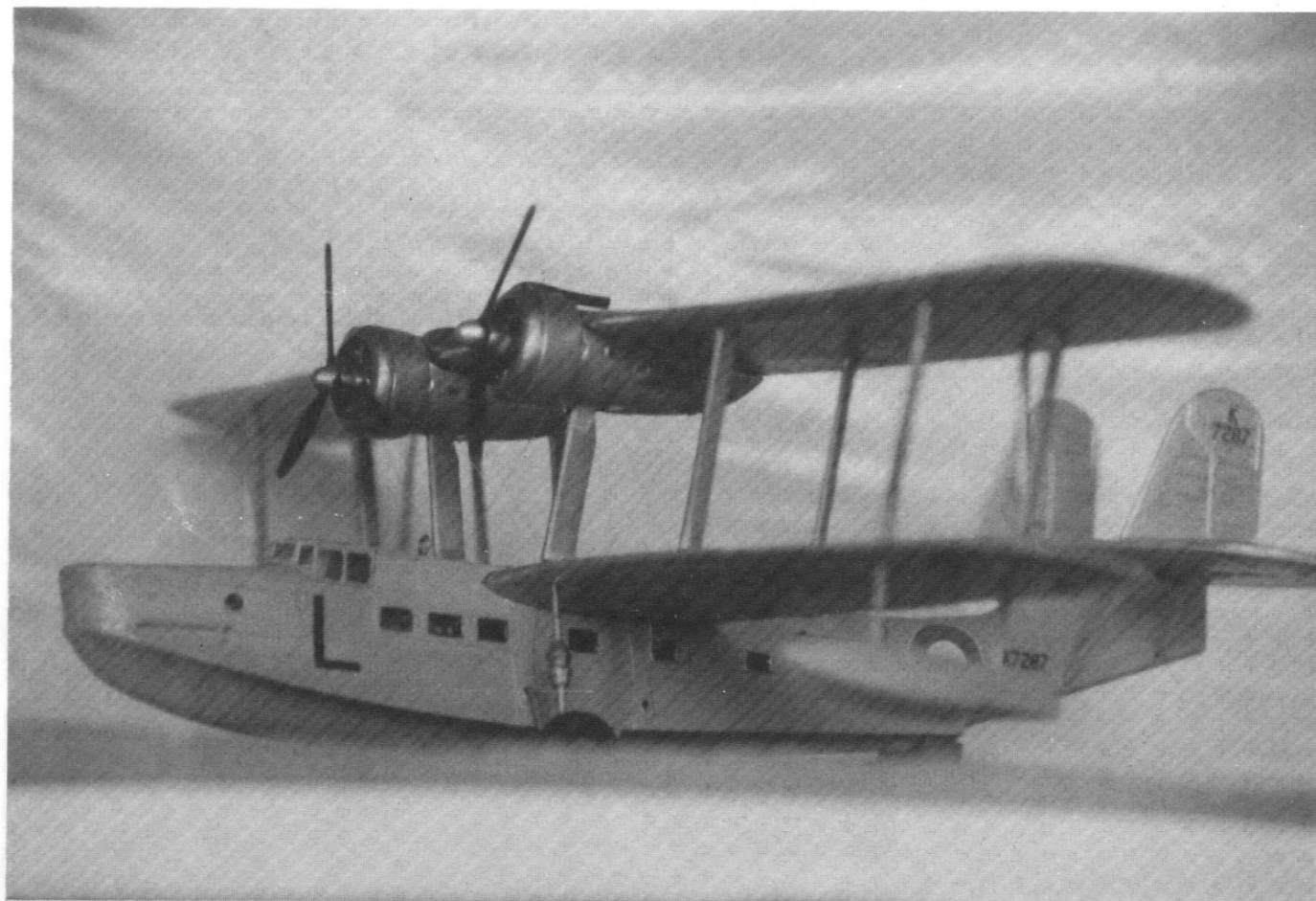
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RIGGING THE STRANRAER

By Don McGavin

SOMETIMES one reads an article in a modelling book or magazine and one thinks 'What a good idea. I must try that sometime.' The idea then goes into limbo and in many cases never comes to fruition.

Such was the theory I read somewhere that for large biplanes they can be rigged by assembling the kit from the box, but leaving off the top surfaces of the top wing and the bottom surfaces of the lower wing, drilling holes in the appropriate places and running the correct 'wires' through these holes. When all is complete the remaining wing surfaces are then cemented in place and hey presto — a beautifully rigged biplane.

A year or two back, for my sins, I gained a placing in our local club's annual competition and the prize was the Matchbox kit of the Supermarine Stranraer flying boat, with the injunction: 'We want to see it, properly rigged!'. Although I am not a biplane fan, the challenge had to be taken up.

Now, I happen to be one of those people who no matter how hard they try, cannot stretch sprue. I end up with a collection of useless hairy stuff or bits of varying thickness with a determination to adhere to peculiar radii, which perhaps accounts for my dislike of making biplanes. And then, out of limbo, came that theory outlined above.

Obviously, the idea of assembling the kit as per instructions was not on. The fuselage was constructed as per the kit instructions but after that a new route had to be pioneered. Painting the completed model in between all those struts

A rear view of the top wing of the model having been drilled to take the nylon thread used for rigging.

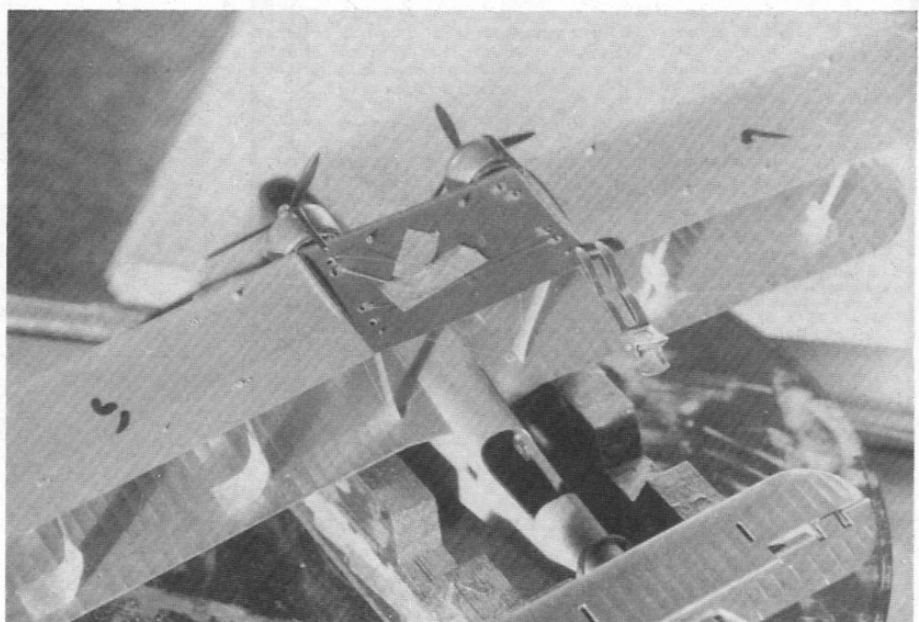
and wires would be tiresome, smudgy and oath provoking so the choice had to be made early, on and I opted for the grey and silver scheme of K7287 of No.228 Squadron in 1936.

The fuselage was completed in the normal way and painted light grey. I then painted all the wing halves silver, on the sprue, using a fairly large brush and very rapid strokes which gave a reasonable linen effect. Once dry it was essential to see at the dry fitting stage that a

The author's completed model of the Stranraer by Matchbox on which he experimented with an improved method of rigging that looks neat and purposeful.

close and accurate joint would ensue, as the paint demarcation line depended on that between components. There would be no way of getting masking tape between wing and fuselage with all those wires in the way.

The top surfaces of the lower wings were then glued to the fuselage. When set, they were drilled close to the existing kit strut holes to take the rigging wires. I use the hot needle method, which gives a slight raised rim to each hole, which I reckoned would pass as the grommet on the original through which the wire passed to be secured to the main frame of



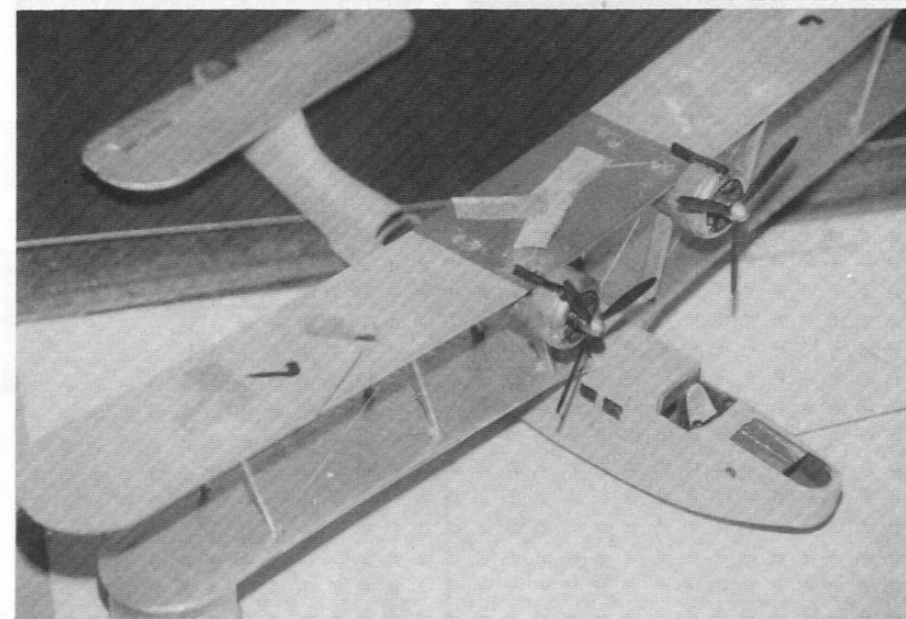
Left: The author built himself a cradle in which to keep the model whilst it was being worked on. This is essential when one frequently finds the need for three pairs of hands.

anywhere to the lower surface of the centre section. Make sure it is thin enough to fit inside the wing section. The needle is then passed through all the holes, using the kit diagrams and box art to place all wires as indicated. I did the thwartwise diagonal bracing first, followed later by the chordwise wires. Once the thread is in place and pulled taut a drop of Loctite superglue was placed on each point where the thread passes through the wing. The loose end of the thread is held down somewhere with a piece of masking tape until the whole has set.

It was at this stage I discovered that somewhere in the construction process my Stranraer had developed a forward stagger which would do justice to a Tiger Moth, so the whole thing had to be dismantled and rebuilt. This is par for the course with any biplane built by me, which is why I tend to shun the things and stick to sleek 1950s prototypes. I sulked for a week and built a Supermarine 510 to restore my natural bonhomie. And then She who must be obeyed wanted a bedroom repainted so there was a further delay.

With the centre section rebuilt properly vertical and rerigged as above, the lower halves of the top wings were carefully mounted on the struts, with a very carefully aligned butt joint to the centre section. This needs care, as the normal jointing tongue is on the top half of the wing and the Matchbox engineers did not intend the modeller to make the kit up without using the tongues. However, the sections fitted together very well. Note the use of hair-dresser's clips to ensure the accurate lining up of the trailing edges.

Once firmly set — about three weeks in my case due to a data base programme that needed modification — out comes the needle and thread again and the wires stitched in as per the diagrams. I did not follow any particular order, simply placing wires where necessary. I suppose it is theoretically possible to wire up each wing in one go but in fact I found it simpler to cut the thread in places, e.g. for the chordwise diagonals. I also discovered that all ends of the thread can be held temporarily with masking tape to pull the wires taut. Another tip is not to put the superglue actually at each hole, but somewhere close by on the inside of the wing. Sometimes you may want to go back through a hole and it is not nice to find the hole bunged up with set superglue. The photograph shows just how cluttered the wings can be with dabs of masking tape holding down stray ends, but these are all removed later. Once you are satisfied that there is a rigging wire in every



Above: This third view of the Stranraer having its rigging assembled shows the pieces of tape used to hold the material down before the upper wing half is cemented in place.

effective way. It is also very strong and won't break and it is of consistent thickness. With great myopic difficulty one end was tied to a needle and the other to a small piece of plastic card. The piece of card was then cemented

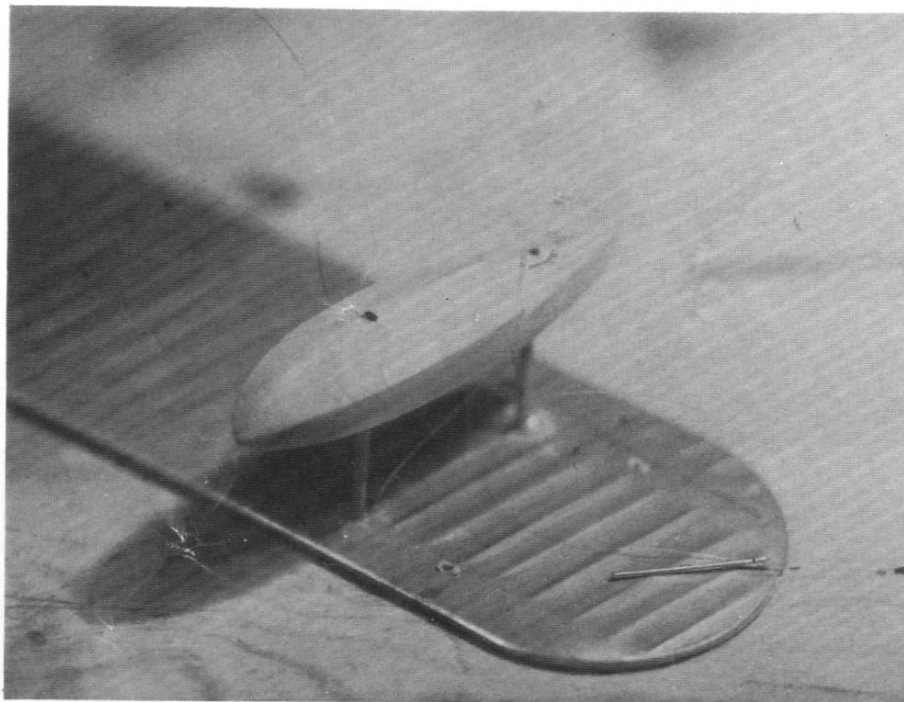
the aircraft. Meanwhile the engines and nacelles had been mounted on the lower part of the centre section. Here I followed the kit instructions and mounted the cowlings and props but in retrospect I would leave these off as it was found the rigging tended to tie itself round the propellers. The nacelles were drilled to take the wires as was the wing surface. I found that some of the holes in the lower wing surface has to be quite large to take the angle of the needle, but as these were to be subsequently hidden this was of no account. When all drilling was complete the centre section was mounted up on the appropriate struts and left to set.

RIGGING WIRE

For the rigging wire I used the so-called 'invisible' nylon thread. This is anything but invisible and catches the light in a most

Right: The rigging plan complete and the upper wing surface glued in position. The joint has to be carefully rubbed down and then painted. By now the temporary land undercarriage legs and wheels had been applied making the necessity of the cradle shown above no longer valid.





place that a rigging wire should be, the top halves of the top wings and centre section can be glued in place, checking that no old masking tape or blobs of hardened superglue get in the way of a neat fit. The hairdressers clips and a few clothes pegs come in handy here to clamp the wing halves tightly down and to ensure a sharp trailing edge.

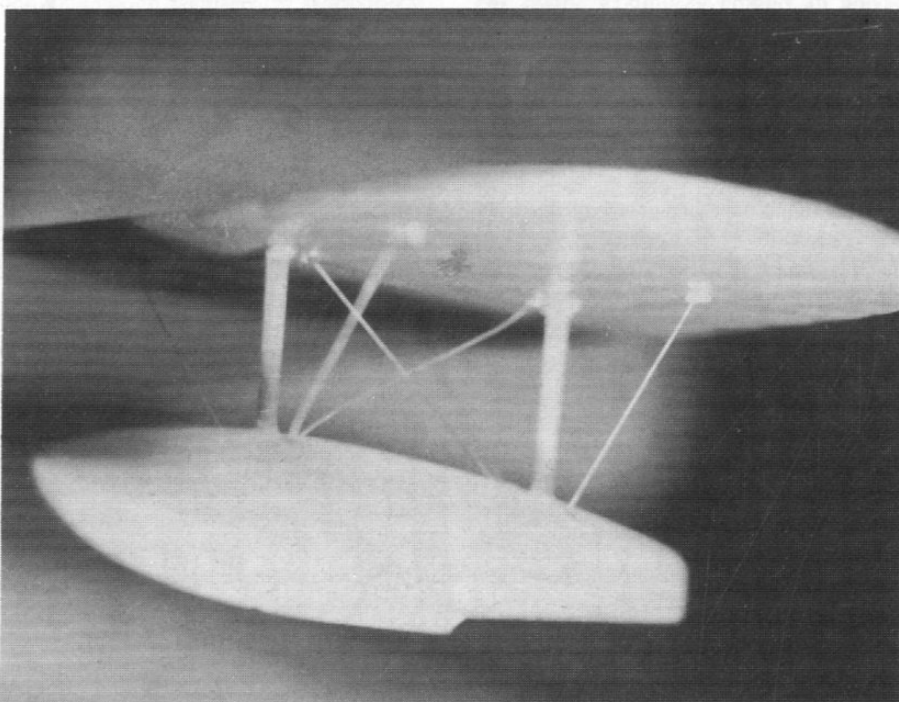
NOT EASY

In theory you slap the bottom halves of the lower wings on in the same way. But beware of theory. There happens to be floats on the bottom wings and they have bracing wires. No problem, in theory. You just stitch them up in the same way. A small hole fore and aft in each float to pass the needle through, to be filled with filler once the rigging is done. The snag is that the struts are less than half the length of the needle so no way can you angle the needle under the wing and through the pre-drilled float. The needle had to be cut in half and once the half with the eye had been searched for on the carpet where Murphy had pinged it out of the cutter, it still took a great deal of patient probing to poke it through the float and out the desired hole before each float was properly braced diagonally and fore and aft.

The port float parted company once and starboard twice from the wing section. Long sulks ensued, resulting in the completion of a Hawker P.1081 and a Sukhoi Su-7. Eventually, however, by prodding the half needle through with tweezers the floats were fixed in the same way as the wing rigging and as the thread is now fixed pretty tautly, they should never fall off now! The holes in the bottom of the floats were duly filled and the paintwork touched up. The bottom halves of the lower wings were then ready to fix in place.

I found there was some difficulty aligning these up at first, but filing down of the original locating pins in the kit removed this. Once again a few hours in the clamps and the wings were on. Thereafter the other parts of the kit were assembled more or less as the instructions and the Stranraer was complete. Due to careful preliminary work no filler was required anywhere and prepainting most parts meant there was little to do other than a little touching up here and there with the 00 brush. The decals for

The author says he was satisfied with the completed model and indeed it won a prize at one of the national competitions last year. But he says he is reluctant to produce another model especially if it has floats. This picture shows one of these completed.



Rigging the wing floats can be a difficult job. In order to thread the nylon wire through the pre-drilled holes it was found necessary to cut the needle in half.

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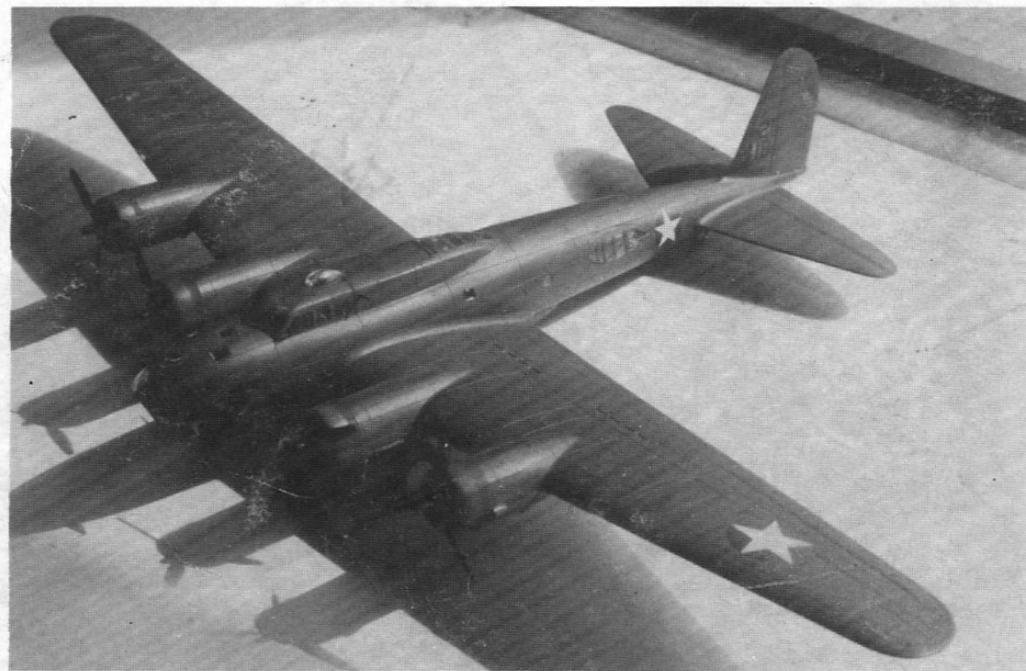
BOEING B-17D FLYING FORTRESS

Manufacturer: Academy Minicraft
Scale: 1:72nd
Price: £17.35

Up until now it has been the later models of the Flying Fortress that have been the subject of many kits so it is rather nice to welcome a kit of one of the earlier models, the B-17D. The most noticeable difference from later models is the lack of dorsal fairing to the fin and the lack of rear gun turret.

The kit really is superbly moulded in pale grey plastic with excellent fine surface detail. In the cockpit there are seats, control wheels and instrument panel. The bomb bay is fully detailed with bomb racks and bombs. Everything fits together in a remarkable manner that requires absolutely no filler. How the parts fit together is illustrated by exploded view drawings with the parts numbered and also lettered to identify the sprue they are on. There are also layout diagrams of the sprues. Unfortunately there are a couple of numbering errors, for example the landing light lens are 56 and 57 not both 56. A number of sketches and photographs are given in the instructions but these are not all relevant or correctly described. In section three the pilots compartment is shown with an upper gun turret.

The most confusing part of the kit is the colour scheme and decals. The latter have obviously been designed to be suitable for a



number of variations of this kit. My guess is that the machine on which the kit has been modelled was originally finished in polished natural metal with red centred stars, red and white fin stripes and a blue vertical fin stripe. Later the machine probably had olive drab water-based paint applied over the upper surfaces still leaving the rudder stripes and finally the standard olive drab upper surface

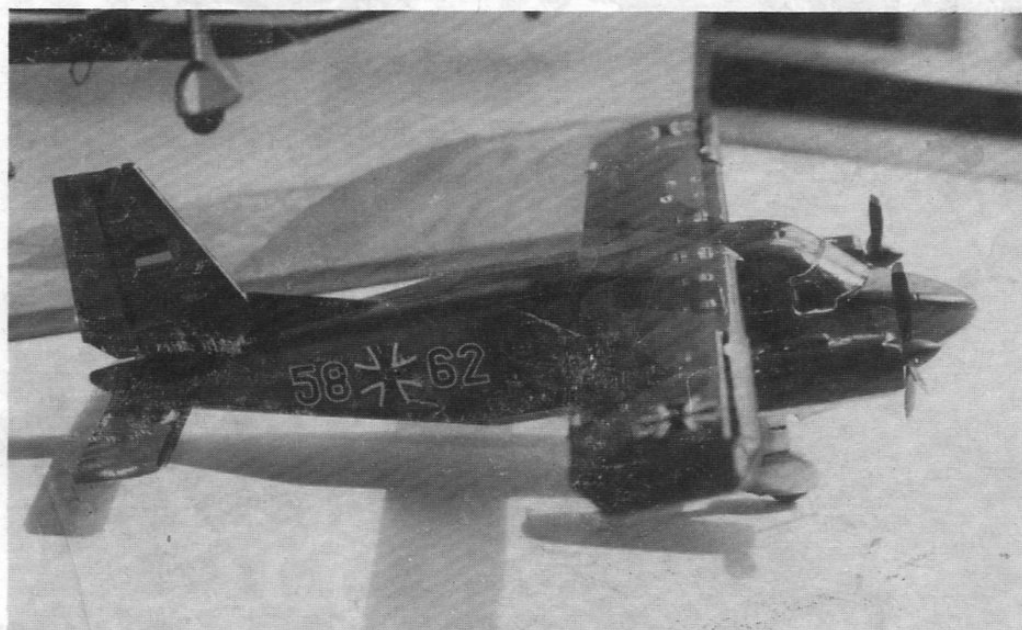
and neutral grey underside scheme was applied with no rudder stripes and no red centres to the stars.

The instructions mix all three together and throw in a flat black underside. As you will see I have finished the model in the olive drab/neutral grey scheme with blue and white stars. If you wanted a model that was a bit more venturesome the decal sheet contains all the markings you

require for the pre-war natural metal scheme. The decals are unfortunately very glossy indeed and if you model the camouflaged machine you may prefer to supply your own decals.

Overall this is a first rate kit. It is a pity the decals are not better and the colour scheme description more precise but it is not a kit to be missed.

Brian Thorne



DORNIER Do 28D SKYSERVANT

Manufacturer: Revell
Scale: 1:72nd
Price: £4.80

Revell are fast becoming to modelling what Channel Four is to British television, publishers not only of other peoples' products but even of their repeats. While the

Skyservant's attraction for a German firm is understandable, this kit was originally one of the first issued in their second series by Matchbox in the early 1970s, when they were making their name as producers of kits of aircraft which had hitherto been overlooked by the larger kit manufacturers. The mould, like some others, would appear to have been acquired by

Revell as a separate deal before they bought the company. Had the kit not already been available I would no doubt be praising Revell's choice of subject, but it has been around for the best part of 20 years, even though the reissue has, as advertised on the box, a Super Decal.

Those of us who were fortunate enough to listen to one of Maurice

Landi's chats on the subject to a model club will remember that Matchbox were very proud of the way in which they had designed their moulds for long life and the mouldings in this kit, in white plastic instead of the original brown and orange, bear testimony to their success. The kit is one of the very few which provides furnishings for the interior as well as the cockpit and there is seating for six passengers and the two crew. They are also given an instrument panel on the decal sheet, though for some reason this is neglected by the instructions. The two-part cabin door can be mounted open or closed. A useful feature that I had forgotten is that the cabin windows fit from the outside and can therefore be put in place with a little Kristal Kleer after painting, avoiding the risk of overpainting them. Given that the mouldings themselves were clean, I was a bit disappointed with the overall fit of parts, particularly around the nacelles/undercarriage area which needs a little filler and sanding.

Two colour schemes are offered, a current low visibility one for a German Navy aircraft of an unspecified wing and the other of an earlier era carrying the white horse of Jagbgeschwader 36. I chose the latter finished in RAL 6014 Gelboliv and RAL 7012 Basaltgrau on top, with a little dayglo orange and I would have

expected it to be Silbergrau underneath rather than the silver quoted by the instruction sheet; however, a photo caption with the plans recently featured in *Aviation News* Volume 19 Number 17 does say that some aircraft had silver undersides, so I amended the model accordingly. These plans, although somewhat short on alternative colour schemes, are very useful for additional external

detail.

The aircraft served with many Luftwaffe units as a wing hack and a little research and a rummage through the spare decals box will no doubt offer ideas. The decal sheet of which Revell make a feature is in fact very good, with an amount of stencilling and small markings which would do justice to a sheet from one of the specialist decal firms; much of it is

applicable to the engine nacelles and their mounting stubs and this can be quite tricky to apply in a relatively cramped area, but certainly adds to the overall appearance of the finished model. Whether the excellence of this sheet justifies the price for what is a fairly basic kit is a matter of personal judgement. The instruction sheet is in Revell's usual style, but I did find rather

awkward its arrangement of the colour scheme diagram with the side views overlaid from the top surface, so that it was necessary to keep turning over from one to the other while painting the areas where both were significant. Other than that, it's good to have the availability of this kit assured and my thanks are due to Revell for the opportunity to review it.

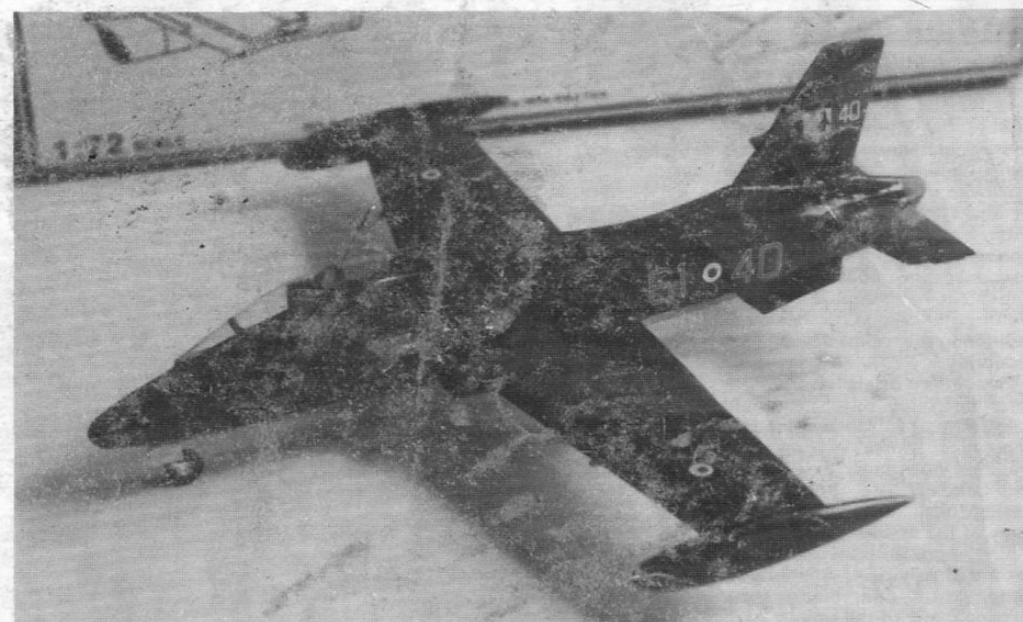
Mike McEvoy

MACCHI MB.339

Manufacturer: Aeroclub
Scale: 1:72nd
Price: £6.75

This is the first of Aeroclub's established 'Aerotainer' series to be re-issued with a moulded fuselage replacing the vacuform of the original while retaining the firm's trademark white metal parts for undercarriage, instrument panels and of course ejector seats. These last, like those in the PC-9 reviewed last month — which as I discovered at Fairford, contrary to what I surmised in the review, has a blue tailplane but a white one-piece elevator — have a small frame of etched brass parts from which a selection can be made in accordance with the seats' individual instruction sheet. Flying surfaces are all single piece, but the deep oval tip tanks are each in two parts.

As with most of these kits, the inner faces of the fuselage benefit from a little rubbing down to get a sharper edge for the join, but even with that you may need a little filler to eradicate the join line totally. I also found that I needed some to fair in the rear of the intakes under the wing. The ventral fins, which were no doubt part of the vacuform sheet in the original kit, were not included in my review sample and like the undercarriage doors and serials will need to come from your own stock of plastic card. The canopy is supplied as a transparent vacuform and needs considerable care while trimming the surround to get a good fit; I took a little too much off the underside at the front and even the discreet application of a



little Kristal Kleer doesn't remedy the error properly.

The first 339s to join the Aeronautica Militare Italiana were in a high visibility orange and white scheme, but the example for which decals are included, based with the 61° Brigata Aerea, at Lecce in 1989 is green, grey and silver with dayglo areas. Subsequently, according to a profile in a recent *Aeronautica e Difesa*, the dayglo areas have been much reduced and much smaller roundels and outline codes applied. The tip tanks shown in the drawing accompanying that article are more conventionally

cylindrical in shape and look to my eye to be very similar to those carried under the inner wing pylons of the display 339 PANs of the Frece Tricolori.

As the original semi-vacuform Aerotainer range included an example of the aerobatic version it is quite possible that it will also reappear with a moulded fuselage and those of us who have watched with admiration the team's display of aerobatics *con brio* will be able to add one of their very colourful mounts to our shelves.

The roundels on my decal sheet were very boss-eyed and I replaced them with some from Tauro

Decals sheet 501; the alternative scheme in the kit is for an aircraft of the Armada Argentina which is illustrated in the *Falklands Air War*. I have always been surprised that this aircraft, which has a considerable list of operators — the most recent being the Royal New Zealand Air Force whose combat-capable 339s carry an RWR housing on the fin — has never featured in the range of a major kit manufacturer and my thanks are due to John Adams of Aeroclub both for remedying that omission and for supplying the review sample.

Mike McEvoy



JUNKERS G-24

Manufacturer: Revell
Scale: 1:72nd
Price: £9.95

Junkers developed the use of corrugated all metal construction on their later machines of World War 1, but these were all fairly small aircraft. After the war a Junkers J-10 was converted for transport use by fitting a canopy over the rear cockpit to give the passenger some degree of protection. Following the J-10 came the F-13 which carried four passengers and then in 1924 the G-23 flew which carried nine passengers and was one of the most important early transport aircraft.

Following the G-23 was the subject of this model, the G-24, which was very similar to the G-23 but was heavier and had greater

power. The wing span was 29.9 metres, greater than the familiar Ju 52 which was only 29 metres.

The kit is well moulded partly in black and partly silver plastic. The corrugated surface is very realistic. There are a large number of very small parts, mainly external steps and I found that these were rather brittle requiring great care and a new blade in my knife to safely remove them from the sprue. Most parts fitted together very well, the exception being the fin which

needed some adjustment. The holes for the propeller shafts were also a little small and required some reaming out.

Assembly was very straightforward and is well illustrated by a series of exploded views. Colours are shown in these drawings by the use of little flags bearing a letter to represent the colour. There is a small mistake here in that drawings two and three show the outside of the fuselage being black whereas of course it should be the inside. The

cockpit is detailed with seats, control columns and instrument panel and the cabin with nine seats. The cabin has the luxury of windows but the cockpit only has two small windscreens. The large holes above the windscreens must have caused a lot of drag.

As will be seen from the photograph of the model the version chosen for the kit is a floatplane although the type also flew with wheels or skis. The decals are for a Finnish example,

K-SALC. (Hands up those of you who knew K- was Finland in those days.) It is natural metal on upper flying surfaces and most of the fuselage with the undersides, floats and engines black. The decals are good but you may have some difficulty in getting them to adhere well due to the corrugations. Microsol will help here.

Well done Revell for giving us a model of a less well known but important aeroplane.

Brian Thorne

ILYUSHIN II-4

Manufacturer: Revell

Scale: 1:72nd

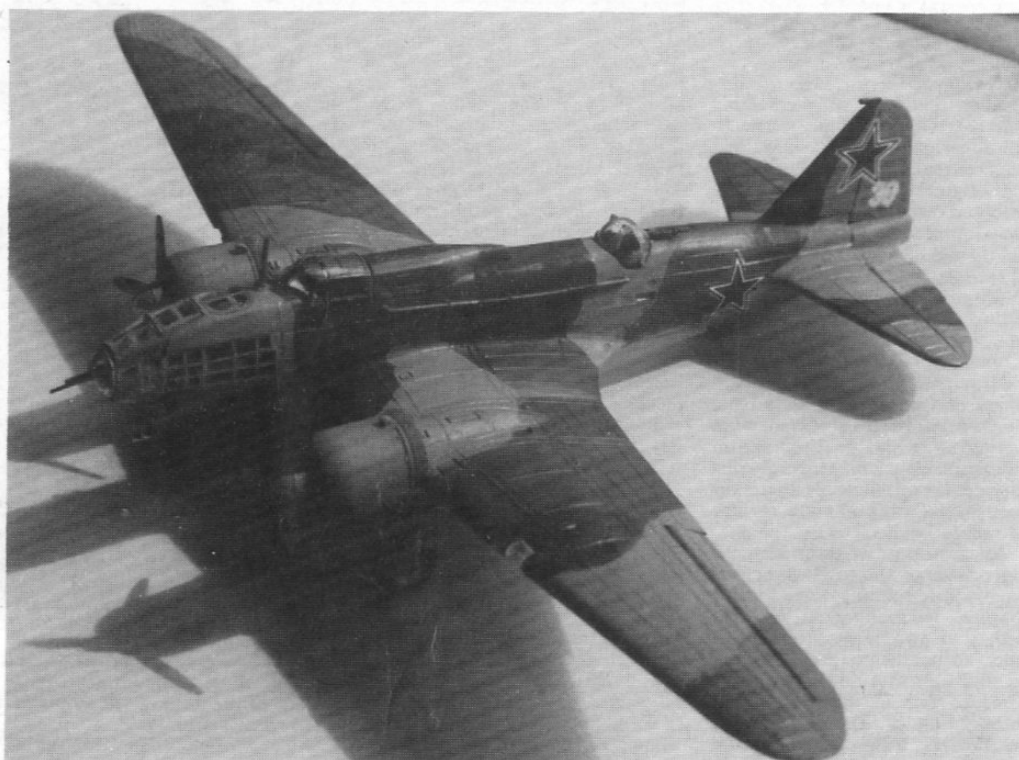
Price: £6.80

Glasnost has brought a great spate of information on contemporary Soviet aircraft and a positive avalanche of kits as a result, but the aircraft of the Great Patriotic War are still not as well represented as they might be and this medium bomber — an equivalent I suppose of the Wellington — is a welcome addition to the realms of modelling possibility.

The kit's origin is a little uncertain — I have heard the Polish firm of Mikromodels as a possible source — but it is available now both from Revell and under the banner of masterModell, a name carried by many of the ex-East German kits.

First impressions on opening the box are of very clean mouldings in white, with one black sprue carrying many of the smaller parts and with a considerable amount of raised line panel detail. I was intrigued on casting the initial cursory glance of the instructions to see the unusual breakdown of the fuselage in to top, bottom and two sides, partly suggested perhaps by the extensive transparencies needed for the nose. This gave me the only problem I found in assembling the kit, in getting the white parts properly squared up before attaching the glazing; I followed the kit instructions, although in looking at them in retrospect there is more than one way of carrying out step seven and it might have been better to have attached the side transparencies five and six to the fuselage sides before fitting those to the top and undersides.

Before getting to that point though you will have completed the cockpit interior which has two seats, two sticks, two sets of pedals and sundry other small parts and the mountings for both dorsal and ventral guns. There are also a set



of throttles, a trim wheel and a small side console for the cockpit walls and decals both for the latter and for the instrument panel. The remainder of the assembly is straightforward, but for some reason the kit includes a pair of reasonably well moulded engines which are then totally concealed in their cowlings behind a pair of cooling fans. There are one or two other idiosyncracies, such as the provision of six separate propeller blades and two spinners, where I would have expected two one-piece mouldings. There are many nice little detail parts which add to the convincing appearance of the completed model; the flaps can be fitted in the lowered position and various access hatches can be left

open if wished. There is also a choice of underfuselage loads, including a torpedo, a long range fuel tank and the grand-mother of all bombs, described on the instruction sheet as an AMG-1. I couldn't resist this piece of destructive ironmongery, which looked as though it might have been left over from an earlier conflict and therefore decided to build one of the bomber versions.

Decals and colour details are provided for three different aircraft, a torpedo bomber of 1942, a day bomber of 1943 and a night bomber of 1944, which differ only in detail in their colour schemes. The day bomber was green, brown and dark grey on top with blue undersides, with a pair of

yellow spinners and markings consisting only of red stars on fin, fuselage and lower wing and an individual number on the rudder.

The result is a model of an unusual and interesting aircraft which is not as easy to put together as first appears and which I think I'd do better next time. It will be interesting to see whether the availability of the kit prompts a little research and publication of alternative schemes, which must surely exist given the widespread use of the aircraft. Certainly Revell, who we thank for the review kit, are to be commended for making the kit available to a wider modelling public than might otherwise have been the case.

Mike McEvoy

AIRFIX R.A.F. RECOVERY SET



RAF RECOVERY SET (Coles Mk.7 Crane and Queen Mary Trailer)

Manufacturer: Airfix

Scale: 1:76th

Price: £4.25

This is not of course a new kit but is simply reissued. It first appeared in the early 1970s but nevertheless it is a most welcome reappearance especially for the modellers of dioramas.

The kit has 141 parts for the two vehicles plus drivers for both, for the crane, two motorcycle escorts and a figure to direct operations.

Assembly is very straightforward although at times a little fiddly. Every part is numbered on the sprue and its position clearly indicated on the exploded view assembly drawings. Even identical parts such as four wheels, each of which are in two parts, have individual numbers for each part.

There is no glazing for any of the windows but the model lends itself to the use of Kristal Kleer. The recommended colour for the vehicles is Humbrol 79 but my feeling is that this is not quite blue enough for RAF blue. The decal sheet provides registration

numbers for both lorries and Maximum Load warnings for the trailer.

Here is a chance for you to make use of the model your other half knocked on the floor while dusting — just carry it off on the Queen Mary!

Brian Thorne

Additions from Almark and Airwaves

EVERY so often a package arrives by courtesy of the Royal Mail and Andrew Deeley of ED Models, with a selection of the latest products marketed through the well-known Birmingham model shop and the latest big envelope disgorged two large decal sheets and three varied accessory packs. The decal sheets are both in 1:48th scale and while they are enlargements of those that have already appeared in 1:72nd scale will still be welcomed by devotees of 'quarter-inch' scale.

Sheet A48-25 is devoted to Luftwaffe fighter national markings of the mid World War 2 period, with both crosses and swastikas in various styles and shades and a selection of stencilled instructions. The accompanying instruction sheet is particularly informative on the application of the assorted decals and the name of Les Whitehouse as researcher is a guarantee of their accuracy. Given the very variable quality of decals in kits I'm sure this sheet will be appreciated not least in the United States, where both scale and subject endure in popularity.

Sheet A48-26 is by contrast

devoted to markings for individual aircraft and is an enlargement of the RAF PR Europe sheet, with a variety of types to choose from. There are no less than 14 assorted Spitfires for a start, from an early converted Mk.I to a late XIX looking very similar to that currently flown by the Battle of Britain Memorial Flight. A pair of Mosquitos is unsurprising and a converted Hurricane Mk.IIc not unexpected, but the Blenheim Mk.IV and three Hudsons are surely going to tax the ingenuity of the most devoted modeller in this scale! These sheets retail at £3.95 each.

The first of the three packs of Airwaves accessories continues the 1:48th scale connection with set SC48-03, a white metal undercarriage with resin mainwheels for the Junkers Ju 88 unspecified both as to sub-type and kit; this is £2.50. AC72-41 is a set of the now familiar etched brass for the Hasegawa kit of the Kawasaki Ki 61-1 Hien, including a very comprehensive cockpit assembly starting with floor and walls and with radiator and intakes grilles and undercarriage doors. I believe that this is the first Japanese subject that Keith Melville of Airwaves has tackled and to his usual high standard it will certainly enhance any model of this elegant fighter.

The last goodie, AC72-42 is likely to find early employment on my workbench, being devoted to that most fascinating of ugly ducklings, the Lockheed F-117A. Designed for the Italeri kit, much of it is concerned with the cockpit area, with harness and other seat detailing, instrument panels and consoles, a HUD frame and

canopy sills and locks. There is also a three-part ladder, of which the original was according to legend purchased at a local hardware store and grilles not only for the small underside vents but also for the intakes. The appearance of this set coincides with the release of the Squadron/Signal In Action book on the black jet, which

features the use of the aircraft in the recent unpleasantness in the Gulf. The use of both should result in a very satisfactory model of the 117A. Both brass sets are £4.99 and if your local model shop doesn't keep them, no doubt ED Models will be pleased to send them in exchange for money.

Mike McEvoy

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Finland modellers

THE newly formed Spalding Scale Modellers Group hopes to attract members from the Finland areas around Spalding, Lincolnshire and Peterborough, Cambridgeshire, where this year's IPMS Nationals will be held in November.

Meetings are held once a month on Monday evenings in Spalding town centre and newcomers will be made very welcome. For more details contact Dennis Earth on (0775) 724038 or Peter Emms on (0775) 767729.

Model show

ON 22 September next, the Aero Space and Vehicle Club will be holding a Model Show and Competition at The Community Centre, Church Road, Wombourne, near Wolverhampton, from 10.30 am until 4.30 pm.

For further details contact J. Van-Leerzem, 163 Bells lane, Wordsley, Kingswinford, West Midlands. Telephone (0384) 278600 or N.D. Robinson, 10 Otterburn Close, Heath Hayes, Cannock, Staffs. Telephone (0543) 276025.

FOR SALE

MOTOR CARAVAN available at end of current air show season. Ford long wheel base Transit JYM 572T used by the publishers of this magazine as a sales vehicle at air show sites for the last eight years. Genuine 35,000 miles. Fully fitted with refrigerator, Ascot hot water heater, shower, toilet, interior space heater, internal water and waste tanks, double glazing. Sleeps five. Available with large, attachable tent at rear. Full length awning on right hand side. £5,000 ono. Available for inspection at Berkhamsted or Milton Keynes offices. Contact Alan W. Hall at 228 High Street, Berkhamsted, Herts HP4 1AD. Telephone (0442) 874682.

EXPO '91

SUTTON Coldfield Modelmakers are holding EXPO '91 at the United Reform Church Hall, Sutton Coldfield on Saturday, 5 October 1991. Traders, visiting club display plus competitions, including a free to enter competition for juniors under 12 years of age.

For further information contact: E. Jones, 60 Severn Drive, Burntwood, West Midlands WS7 9JF. Telephone (0543) 674352.

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AIRCRAFT PLANS SERVICE

Most are contained in back issues but those marked with an asterisk are photo-copied from the originals.

Royal Air Force		Hawker Typhoon	11/16	DH.9	12/14	* Boeing-Vertol Chinook	12/14	Italian aircraft	
* Short Singapore III	1/3	RAF SE.5a	11/23	RAF Be Zc	12/19	Bell P-63 Kingcobra	12/7	* Aeromacchi MB.326	1/20
* Vickers Wellington	1/6	Blackburn Bortha	11/25	Sopwith Dolphin	13/1	Curtiss C-46 Commando	12/16	* Fiat CR.32	2/17
* HS Harrier G.1/T.2	1/8	Panavia Tornado	12/2	de Havilland DH.2	13/9	Boeing P-26A	12/18	Savoia Marchetti SM.82 Marsupiale	4/1
* Bristol Brigand	1/9	Handley Page Hyderabad	12/5	Sopwith Baby	13/24	Fairchild C-119 Flying Boxcar	12/26	Reggiane Re.200 Falco II	4/3
* Boulton Paul Overstrand	1/17	* Westland Whirlwind Mk.1-8	12/6	Roland C.II	14/2	Vultee Vengeance	13/2	Ltali Marchetti SF.261	8/8
* Short Stirling	1/18	Percival Proctor	12/9	Pfalz D.111	14/18	Beech C-45 Expeditor	13/18	Cant Z.1007bis	8/13
* Supermarine Spitfire IX and XVI	1/21	Supermarine Southampton	12/10	Morane Saulnier Type I, NGV	15/4	Martin 167 Maryland	13/19	* Fiat G.91	8/18
* BAC TSR-2	1/23	Bristol Bulldog II	12/12			Fairchild A-10A Thunderbolt II	13/22	Breda BR.100	9/12
* Bristol Beaufighter	1/24	Airspeed Horsa	12/13			Sikorsky H-60	13/23	Savoia Marchetti SM.79 Sparviero	9/14
* AW Mer NF.11-NF.14.	2/1	Auster Mks. IV, 9	12/12			* Lockheed C-130 Hercules	—	Fiat G.55 C.59	10/2
* RAF Aerobatic Teams 1973	2/3	Avro Manchester	12/25	World War 2 Luftwaffe	1/2	* Boeing B-17E/F/G	13/2	Macchi C.200/C.202/C.205	10/6
* Handley Page Heyford	2/8	Westland Gazelle	13/4	* Dornier Do 17	1/7	* Lockheed C-119 Hercules	13/6	Caproni Ca.313 and Ca.314	10/7
* Avro Anson Mk.19-22	2/12	Avro Tutor	13/11	* Junkers Ju 86	1/7	Thunderbolt	13/22	Fiat BR.20 Cicogna	10/12
* Fairey Iliff	2/13	Avro 504N	13/14	* Heinkel He 59	1/14	Sikorsky H-60	13/23	Cant Z.506 Airone	11/5
* Bristol Bombay	2/14	de Havilland Venom	14/3	* Focke Wulf Fw 56 Stosser	1/19	Boeing B-17E/F/G	13/26	Aeritalia G.222	11/8
* Gloster Javelin Mk.1-9	2/20	Hawker Hurricane	14/3	* Arado Ar.96	1/25	Martin 187 Baltimore	14/5	Aermacchi MB.338	12/17
* BAC Strikemaster	2/24	de Havilland D.H.9A	14/4	* Junkers Ju 88	2/6	Seversky P.35	14/8	Fiat G.50	12/24
* Boulton Paul Defiant	2/25	Vickers Virginia Mk.X	14/6	* Heinkel He 162	2/22	Douglas Dakota	14/14	Fiat CR.42	13/12
* Avro Lincoln	3/2	Scottish Aviation Pioneer CC1	14/13	* Heinkel He 219 Uhu	3/6	McDonnell Douglas F/A-18 Hornet	14/23		
Saro London	3/5	Gloster Gauntlet II	14/15	Junkers Ju 52/3mge	4/9	Sikorsky Hoverfly 1	15/6		
* RAF Aircraft. 1974	3/9	Gloster Gamecock Mk.1	14/24	* Heinkel He 177A-5/R.4	4/26	Sikorsky Hoverfly II	15/14		
* Percival Provost T.1	3/12	Bristol Sycamore	14/25	Focke Wulf Fw 190V-1 to A-4	5/18	Douglas AD-1 Skyraider	15/15		
* Airspeed Oxford	3/14	de Havilland Mosquito	15/1	Messerschmitt Me 410A	6/22	Northrop F-5E/F	15/16		
Hawker Siddeley Nimrod	3/16	Pre-War RAF Codes (no plans)	15/11	Focke Wulf Fw 189	7/19				
* Vickers Varisity & Valetta	3/17	Westland Whirlwind Mk.9-12	15/11	Henschel Hs 129B-2	10/16				
* Westland Wessex	3/21	HD.114 Haron	15/17	Fieseler Fi 156 Storch	10/18				
* Douglas Boston III	3/26	Hawker Horsley	15/18	Dornier Do 335 Pfeil	10/20				
* Westland Lysander I-III	4/2			Heinkel He 115	10/24				
Handley Page Hastings	4/7			Dornier Do 24	12/11				
Vickers Vimy and Vernon	4/10			Fw 190D-9, Ta 152	12/20				
University Air Squadron colours	4/13	Royal Navy		Heinkel He 51	12/23				
Vickers Valiente	4/16	* Westland Wyvern T.3	1/4	Messerschmitt Me 262	13/7				
Westland Walrus and Wallace	4/17	* Fairey Firefly Mk.1-7	2/5	Messerschmitt Bf 100	13/10				
* Avro Vulcan B.2	4/22	* Westland Scout/Wasp	2/2	Focke Wulf Fw 211C	13/15				
* BAC Canberra	5/2	* HS Sea Vixen	2/10	Arado Ar 234	13/20				
* Hawker Hunter	5/5	* Fairey Barracuda I-V	2/16	Roland C.11	14/2				
* de Havilland Dove and Devon	5/9	* Fairey Gannet Mk.1-5	4/6	Heinkel He 115B	14/17				
* de Havilland Vampire F.1-T.11	5/11	* Supermarine Scimitar F.1	4/25	Blinhorn and Voss Bv. 141	15/12				
Hunting Pembroke	5/16	* Westland Sea King and Lynx	5/7						
* Miles Master and Martinet	5/17	Hawker Sea Hawk F.1-6	5/8						
* Sepecat Jaguar GR.1/T.2	5/19	Fairey Swordfish I-IV	6/7						
* Consolidated Liberator with RAF	5/21	Fairey Fulmar 1 and 2	6/20						